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ESRA ERDOĞAN, ONDOKUZ MAYIS ÜNİVERSİTESİ
ESRA EREN, İSTANBUL MEDİPOL ÜNİVERSİTESİ
ESRA OKSEL, EGE ÜNİVERSİTESİ
ESRA PEHLİVAN, SAĞLIK BİLİMLERİ ÜNİVERSİTESİ
ESRA TANSU SARIYER, SAĞLIK BİLİMLERİ ÜNİVERSİTESİ
EVREN ÇAĞLARER, KIRKLARELİ ÜNİVERSİTESİ
EVRİM ÖZKORUMAK KARAGÜZEL, KARADENİZ TEKNİK ÜNİVERSİTESİ
EYLEM TOKER, TARSUS ÜNİVERSİTESİ
EYLEM TOPBAŞ, AMASYA ÜNİVERSİTESİ
EZGİ ARSLAN ÖZDEMİR, ANKARA ÜNİVERSİTESİ
FADİME KAYA, KAFKAS ÜNİVERSİTESİ
FADİME ÜSTÜNER TOP, GİRESUN ÜNİVERSİTESİ
FAHRİ UÇAR, AKDENİZ ÜNİVERSİTESİ
FARUK DAYI, KASTAMONU ÜNİVERSİTESİ
FARUK YEŞİLDAL, ATATÜRK ÜNİVERSİTESİ
FATİH BİLAL ALODALI, NECMETTİN ERBAKAN ÜNİV.
FATİH BUDAK, KİLİS 7 ARALIK ÜNİVERSİTESİ
FATİH KARAHÜSEYİNOĞLU, FIRAT ÜNİVERSİTESİ
FATMA AYHAN, BATMAN ÜNİVERSİTESİ
FATMA BİRGİLİ, MUĞLA SITKI KOCAMAN ÜNİVERSİTESİ
FATMA DEMİR KORKMAZ, EGE ÜNİVERSİTESİ
FATMA ETİ ASLAN, BAHÇEŞEHİR ÜNİVERSİTESİ
FATMA GENÇ, GİRESUN ÜNİVERSİTESİ
FATMA GÜDÜCÜ TÜFEKCİ, ATATÜRK ÜNİVERSİTESİ
FATMA KANTAS YİLMAZ, SAĞLIK BİLİMLERİ ÜNİVERSİTESİ
FATMA KURUDİREK, ATATÜRK ÜNİVERSİTESİ
FATMA KÜBRA ÇEKOK, TARSUS ÜNİVERSİTESİ
FATMA NEVAL GENÇ, AYDIN ADNAN MENDERES ÜNİV.
FATMA TAŞ ARSLAN, SELÇUK ÜNİVERSİTESİ
FATMA TAYHAN, ÇANKIRI KARATEKİN ÜNİVERSİTESİ
FATMA TOK YILDIZ, SİVAS CUMHURİYET ÜNİVERSİTESİ
FATMA YILMAZ KURT, ÇANAKKALE ONSEKİZ MART ÜNİV.
FAZIL KIRKBİR, KARADENİZ TEKNİK ÜNİVERSİTESİ
FEHMİ VOLKAN AKYÖN, ÇANAKKALE ONSEKİZ MART ÜNİ.
FERHAT TOPER, MALATYA TURGUT ÖZAL ÜNİVERSİTESİ
FERHAT YÜKSEL, NİĞDE ÖMER HALİSDEMİR ÜNİVERSİTESİ
FEVZİYE ÇETİNKAYA, ERCİYES ÜNİVERSİTESİ
FEYYAZ ÖZDEMİR, KARADENİZ TEKNİK ÜNİVERSİTESİ
FİGEN CELEP EYÜPOĞLU, KARADENİZ TEKNİK ÜNİV.
FİGEN İNCİ, NİĞDE ÖMER HALİSDEMİR ÜNİVERSİTESİ
FİGEN ŞENGÜN İNAN, GAZİ ÜNİVERSİTESİ
FİLİZ ERSOĞÜTÇÜ, FIRAT ÜNİVERSİTESİ
FİLİZ HİSAR, NECMETTİN ERBAKAN ÜNİVERSİTESİ
FİLİZ OKUMUŞ, ANKARA MEDİPOL ÜNİVERSİTESİ
FİLİZ ÖZEL ÇAKIR, KASTAMONU ÜNİVERSİTESİ
FİSUN ŞENUZUN AYKAR, İZMİR TINAZTEPE ÜNİVERSİTESİ
FUAT ERDUĞAN, TRAKYA ÜNİVERSİTESİ
FUNDA AKDURAN, SAKARYA ÜNİVERSİTESİ
FUNDA ÇETİNKAYA, AKSARAY ÜNİVERSİTESİ
FUNDA GÜMÜŞ, DİCLE ÜNİVERSİTESİ
FUNDA KOCAAY, ANKARA MEDİPOL ÜNİVERSİTESİ
GALİP USTA, TRABZON ÜNİVERSİTESİ
GAMZE ÇAN, ÇANAKKALE ONSEKİZ MART ÜNİVERSİTESİ
GAMZE GÜNEY, ARDAHAN ÜNİVERSİTESİ
GANİME CAN GÜR, PAMUKKALE ÜNİVERSİTESİ
GANİME ESRA SOYSAL, BOLU ABANT İZZET BAYSAL ÜNİV.
GİZEM AYTEKİN ŞAHİN, NUH NACİ YAZGAN ÜNİVERSİTESİ
GÖKHAN AĞAÇ SAKARYA UYGULAMALI BİLİMLER ÜNİVERSİTESİ
GÖZDE KÜĞCÜMEN, İSTANBUL MEDİPOL ÜNİVERSİTESİ
GÖZDE ÖZARAS, ÇANKIRI KARATEKİN ÜNİVERSİTESİ
GÖZDE YEŞİLAYDIN, ESKİŞEHİR OSMANGAZİ ÜNİVERSİTESİ
GÜL DALGAR, BURDUR MEHMET AKİF ERSOY ÜNİV.
GÜL ÖZLEM YILDIRIM, EGE ÜNİVERSİTESİ
GÜLAY YILDIRIM, TRAKYA ÜNİVERSİTESİ,

GÜLAY YILMAZ, YOZGAT BOZOK ÜNİVERSİTESİ
GÜLAY YİĞİTOĞLU, PAMUKKALE ÜNİVERSİTESİ
GÜLBAHAR BÖYÜK ÖZCAN, ANKARA MEDİPOL ÜNİV
GÜLBEYAZ CAN, İSTANBUL ÜNİVERSİTESİ (CERRAHPAŞA)
GÜLBU TANRIVERDİ, ÇANAKKALE ONSEKİZ MART ÜNİV.
GÜLCAN BAKAN, PAMUKKALE ÜNİVERSİTESİ
GÜLÇİN AVŞAR, ATATÜRK ÜNİVERSİTESİ
GÜLGÜN ERSOY, İSTANBUL MEDİPOL ÜNİVERSİTESİ
GÜLHAN YİĞİTALP, DİCLE ÜNİVERSİTESİ
GÜLHAN YİĞİTALP, DİCLE ÜNİVERSİTESİ
GÜLNUR İLGÜN, AKSARAY ÜNİVERSİTESİ
GÜLŞAH SEKBAN, SİNOP ÜNİVERSİTESİ
GÜLÜM BURCU DALKIRAN, TRAKYA ÜNİVERSİTESİ
GÜLYETER ERDOĞAN YÜCE, AKSARAY ÜNİVERSİTESİ
GÜNHAN ERDEM, GİRNE AMERİKAN ÜNİVERSİTESİ
GÜRDAL YILMAZ, KARADENİZ TEKNİK ÜNİVERSİTESİ
GÜVEN BEKTEMÜR, SAĞLIK BİLİMLERİ ÜNİVERSİTESİ
GÜZİN YASEMİN TUNÇAY, ÇANKIRI KARATEKİN ÜNİV.
HACER KOBYA BULUT, KARADENİZ TEKNİK ÜNİVERSİTESİ
HACI BAYRAM TEMUR, BAYBURT ÜNİVERSİTESİ
HAFİZE ÖZTÜRK CAN, EGE ÜNİVERSİTESİ
HAKAN BAYDUR, MANİSA CELAL BAYAR ÜNİVERSİTESİ
HALE TURHAN DAMAR, İZMİR DEMOKRASİ ÜNİVERSİTESİ
HALİL AY, GAZİANTEP ÜNİVERSİTESİ
HAMİDE ZENGİN, BİLECİK ŞEYH EDEBALİ ÜNİVERSİTESİ
HANDAN ALAN, İSTANBUL ÜNİVERSİTESİ (CERRAHPAŞA)
HANDAN AYDIN KAHRAMAN, ERZİNCAN BİNALİ YILDIRIM ÜNİVERSİTESİ
HANDAN EREN, YALOVA ÜNİVERSİTESİ
HANDAN ÖZCAN, SAĞLIK BİLİMLERİ ÜNİVERSİTESİ
HANDE CENGİZ AÇIL, SAKARYA ÜNİVERSİTESİ
HARUN ASLAN, KASTAMONU ÜNİVERSİTESİ
HASAN BASRİ SAVAŞ, MARDİN ARTUKLU ÜNİVERSİTESİ
HASAN ERDEM MUMCU, TOKAT GAZİOSMANPAŞA ÜNİV.
HASAN HÜSEYİN ÇAM, KİLİS 7 ARALIK ÜNİVERSİTESİ
HATİCE DEMİRAĞ, GÜMÜŞHANE ÜNİVERSİTESİ
HATİCE ÖNER, AYDIN ADNAN MENDERES ÜNİVERSİTESİ
HATİCE TUNÇ, MEHMET AKİF ERSOY ÜNİVERSİTESİ
HATİCE YILDIRIM SARI, İZMİR KATİP ÇELEBİ ÜNİV.
HAVVA KARADENİZ, KARADENİZ TEKNİK ÜNİVERSİTESİ
HAVVA ÖZTÜRK, KARADENİZ TEKNİK ÜNİVERSİTESİ
HAVVA TEL, SİVAS CUMHURİYET ÜNİVERSİTESİ
HAYDAR SUR, ÜSKÜDAR ÜNİVERSİTESİ
HAYRİYE BAYKAN, BALIKESİR ÜNİVERSİTESİ
HAYRİYE BEKTAŞ AKSOY, GİRESUN ÜNİVERSİTESİ
HAYRİYE ÜNLÜ, ALANYA ALAADDİN KEYKUBAT ÜNİV.
HİLAL AKSOY, HACETTEPE ÜNİVERSİTESİ
HİLAL HIZLI GÜLDEMİR, ANADOLU ÜNİVERSİTESİ
HİLAL TÜZER, ANKARA YILDIRIM BEYAZIT ÜNİVERSİTESİ
HİLAL YILDIRAN, GAZİ ÜNİVERSİTESİ
HURİ İLYASOĞLU, GÜMÜŞHANE ÜNİVERSİTESİ
HÜLYA KAMARLI ALTUN, AKDENİZ ÜNİVERSİTESİ
HÜLYA KARADENİZ, KARADENİZ TEKNİK ÜNİVERSİTESİ
HÜLYA KAYA, İSTANBUL ÜNİVERSİTESİ (CERRAHPAŞA)
HÜLYA UZKESER, ATATÜRK ÜNİVERSİTESİ
HÜLYA YARDIMCI, ANKARA ÜNİVERSİTESİ
HÜSEYİN ERİŞ, HARRAN ÜNİVERSİTESİ
HÜSEYİN ÖZGÜR, PAMUKKALE ÜNİVERSİTESİ
HÜSEYİN ÖZKAMÇI, DOKUZ EYLÜL ÜNİVERSİTESİ
HÜSEYİN YAMAN, KARADENİZ TEKNİK ÜNİVERSİTESİ
HÜSNA ÖZVEREN, KIRIKKALE ÜNİVERSİTESİ**HÜSNA ÖZVEREN,** KIRIKKALE ÜNİVERSİTESİ
İBRAHİM CAN, IĞDIR ÜNİVERSİTESİ
İBRAHİM DADANDI, YOZGAT BOZOK ÜNİVERSİTESİ
İBRAHİM İKİZCELİ, İSTANBUL ÜNİVERSİTESİ
İBRAHİM TURAN, SAĞLIK BİLİMLERİ ÜNİVERSİTESİ
İBRAHİM YILDIRAN, GAZİ ÜNİVERSİTESİ
İDRİS KAYANTAŞ, BİNGÖL ÜNİVERSİTESİ
İKBAL ECE POSTALCI, MİMAR SİNAN GÜZEL SANATLAR ÜNİ.
İLHAN ADİLOĞULLARI, ÇANAKKALE ONSEKİZ MART ÜNİV.
İLHAN ÇİÇEK BATMAN ÜNİVERSİTESİ
İLKE BAŞARANGİL, KIRKLARELİ ÜNİVERSİTESİ
İLKER AKBAŞ, KAHRAMANMARAŞ SÜTÇÜ İMAM ÜNİV.
İLKER İLHANLI, ONDOKUZ MAYIS ÜNİVERSİTESİ
İLKER KİRİŞCİ, MARMARA ÜNİVERSİTESİ
İLKNUR AYDIN AVCİ, ONDOKUZ MAYIS ÜNİVERSİTESİ
İLKNUR KAHRİMAN, KARADENİZ TEKNİK ÜNİVERSİTESİ
İMDAT AYGÜL, GÜMÜŞHANE ÜNİVERSİTESİ
İMRAN ASLAN, BİNGÖL ÜNİVERSİTESİ
İPEK KÖSE TOSUNÖZ HATAY MUSTAFA KEMAL ÜNİVERSİTESİ
İSMAİL AĞIRBAŞ, ANKARA ÜNİVERSİTESİ
İSMET ÇELEBİ, GAZİ ÜNİVERSİTESİ
İZZET ERDEM, BURDUR MEHMET AKİF ERSOY ÜNİVERSİTESİ
İZZET ÜLKER ERZURUM TEKNİK ÜNİVERSİTESİ
KAĞAN KILINÇ, GÜMÜŞHANE ÜNİVERSİTESİ
KAMİLE KIRCA, KIRIKKALE ÜNİVERSİTESİ
KEMAL MACİT HİSAR, SELÇUK ÜNİVERSİTESİ
KIYMET YEŞİLÇİÇEK ÇALIK, KARADENİZ TEKNİK ÜNİV.
KUBİLAY TOYRAN, ÇANKIRI KARATEKİN ÜNİVERSİTESİ
KÜBRA GÜLIRMAK GÜLER, ONDOKUZ MAYIS ÜNİVERSİTESİ
KÜRŞAT KARACABEY, AYDIN ADNAN MENDERES ÜNİV.

LALE TAŞKIN, BAŞKENT ÜNİVERSİTESİ

LALE TÜRKMEN, GAZİ ÜNİVERSİTESİ

LEVENT CEYLAN, SİVAS CUMHURİYET ÜNİVERSİTESİ

LEYLA DELİBAŞ, HASAN KALYONCU ÜNİVERSİTESİ

LÜTFÜ ŞİMŞEK, TEKİRDAĞ NAMIK KEMAL ÜNİVERSİTESİ

MAHİR ARSLAN, SİVAS CUMHURİYET ÜNİVERSİTESİ

MAKBULE GEZMEN KARADAĞ, GAZİ ÜNİVERSİTESİ

MAKBULE TOKUR KESGİN, BOLU AİB ÜNİVERSİTESİ

MANOLYA ACAR, BAŞKENT ÜNİVERSİTESİ

MEHDİ DUYAN, İNÖNÜ ÜNİVERSİTESİ

MEHMET ARİF İÇER, AMASYA ÜNİVERSİTESİ

MEHMET BİRİNCİ, İSTANBUL SABAHATTİN ZAİM ÜNİV.

MEHMET ÇOLAK, MERSİN ÜNİVERSİTESİ

MEHMET FEVZİ ÖZTEKİN, SAĞLIK BİLİMLERİ ÜNİVERSİTESİ

MEHMET KARAKAŞ, BOLU ABANT İZZET BAYSAL ÜNİVERSİTESİ

MEHMET NURULLAH KURUTKAN, DÜZCE ÜNİVERSİTESİ

MEHMET ONUR SEVER, GÜMÜŞHANE ÜNİVERSİTESİ

MEHMET SALİH YILDIRIM AĞRI İBRAHİM ÇEÇEN ÜNİVERSİTESİ

MEHMET SÖYLER, ÇANKIRI KARATEKİN ÜNİVERSİTESİ

MEHTAP KAVURMACI, ATATÜRK ÜNİVERSİTESİ

MEHTAP SOLMAZ, TOKAT GAZİOSMANPAŞA ÜNİVERSİTESİ

MEHTAP USTA, TRABZON ÜNİVERSİTESİ

MELEK GÜLER KARAMANOGLU MEHMETBEY ÜNİVERSİTESİ

MELİKE DEMİR DOĞAN, GÜMÜŞHANE ÜNİVERSİTESİ

MELİKE ERSÖZ, DEMİROĞLU BİLİM ÜNİVERSİTESİ

MELİKE ŞEYMA DENİZ, FENERBAHÇE ÜNİVERSİTESİ

MELİKE YALÇIN GÜRSOY, ÇANAKKALE 18 MART ÜNİV.

MELİKE YALÇIN GÜRSOY, ÇANAKKALE ONSEKİZ MART ÜNİ.

MELTEM ÇATALBAŞ KÜTAHYA SAĞLIK BİLİMLERİ ÜNİVERSİTESİ

MELTEM DEMİRGÖZ BAL, MARMARA ÜNİVERSİTESİ

MELTEM GÜNGÖR, SANKO ÜNİVERSİTESİ

MELTEM MALKOÇ, KARADENİZ TEKNİK ÜNİVERSİTESİ

MELTEM SAYGILI, KIRIKKALE ÜNİVERSİTESİ

MELTEM SOYLU, BİRUNİ ÜNİVERSİTESİ

MERİH KUTLU, KARADENİZ TEKNİK ÜNİVERSİTESİ

MERVE AYDIN TERZİOĞLU, KTO KARATAY ÜNİVERSİTESİ

MERVE AYDIN, KARADENİZ TEKNİK ÜNİVERSİTESİ

MERVE DENİZ PAK GÜRE, BAŞKENT ÜNİVERSİTESİ

MERYEM TOPAL, GÜMÜŞHANE ÜNİVERSİTESİ

MESUT KARAMAN, KAHRAMANMARAŞ Sİ ÜNİVERSİTESİ

METİN YILDIZ SAKARYA ÜNİVERSİTESİ

MEVLÜT YILDIZ, MUĞLA SITKI KOÇMAN ÜNİVERSİTESİ

MEVRA AYDIN ÇİL, ATATÜRK ÜNİVERSİTESİ

MİNE BEKAR, SİVAS CUMHURİYET ÜNİVERSİTESİ

MİNE EKİNCİ, ATATÜRK ÜNİVERSİTESİ

MOHANAKUMAR PRIYAN, DEPARTMENT OF INDIGENOUS MEDICINE, MINISTRY OF HEALTHCARE NUTRITION AND NDİGENOUS MEDICINE, KATARAGAMA, SRI LANKA

MUAMMER AK, GÜMÜŞHANE ÜNİVERSİTESİ

MUHAMMED KÖSE, ERZİNCAN BİNALİ YILDIRIM ÜNİV.

MUHAMMET ALİ KÖROĞLU, UŞAK ÜNİVERSİTESİ

MUHAMMET İRFAN KURUDİREK, ARTVİN ÇORUH ÜNİV.

MUKADDER GÜN, UFUK ÜNİVERSİTESİ

MURAT BAŞ, ACIBADEM MEHMET ALİ AYDINLAR ÜNİV.

MURAT ERSEL, EGE ÜNİVERSİTESİ

MUSA İKİZOĞLU, AYDIN ADNAN MENDERES ÜNİVERSİTESİ

MUSA ÖZATA, KIRŞEHİR AHİ EVRAN ÜNİVERSİTESİ

MUSTAFA BEKMEZCİ, MİLLİ SAVUNMA ÜNİVERSİTESİ

MUSTAFA GÜLŞEN, BAŞKENT ÜNİVERSİTESİ

MUSTAFA KARATAŞ, KÜTAHYA SAĞLIK BİLİMLERİ ÜNİV.

MUSTAFA NAL, KÜTAHYA SAĞLIK BİLİMLERİ ÜNİV.

MUSTAFA ÖNDER ŞEKEROĞLU, MUŞ ALPARSLAN ÜNİV.

MUSTAFA ÖZGÜR BURDUR MEHMET AKİF ERSOY ÜNİVERSİTESİ

MÜCAHİT EĞRİ, TOKAT GAZİOSMANPAŞA ÜNİVERSİTESİ

MÜCAHİT SEÇME ORDU ÜNİVERSİTESİ

MÜJDAT AVCI, OSMANİYE KORKUT ATA ÜNİVERSİTESİ

MÜSLÜM KUZU, KARABÜK ÜNİVERSİTESİ

NADİRE YILDIZ ÇİLTAŞ, ERZİNCAN BİNALİ YILDIRIM ÜNİV **NACİ ÖMER ALAYUNT,** SİİRT ÜNİVERSİTESİ

NAGİHAN DURMUŞ KOÇAK, SAĞLIK BİL. ÜNİVERSİTESİ

NAGİHAN KÖROĞLU KABA BAYBURT ÜNİVERSİTESİ

NAMİK KEMAL ERDEMİR, K. MEHMETBEY ÜNİVERSİTESİ

NAZLI BATAR, İSTANBUL ATLAS ÜNİVERSİTESİ

NAZLI HACIALİOĞLU, ATATÜRK ÜNİVERSİTESİ

NAZLI NUR ASLAN ÇİN, KARADENİZ TEKNİK ÜNİV.

NECLA İREM ÖLMEZOĞLU İRİ PAMUKKALE ÜNİVERSİTESİ

NECMİYE TÜLİN İRGE, İSTANBUL AYDIN ÜNİVERSİTESİ

NEHİR YALÇINKAYA SAKARYA UYGULAMALI BİLİMLER ÜNİVERSİTESİ

NERMİN GÜRHAN, TOKAT GAZİOSMANPAŞA ÜNİVERSİTESİ

NESİBE ARSLAN BURNAZ, GÜMÜŞHANE ÜNİVERSİTESİ

NESLİHAN ÇELİK, ERCİYES ÜNİVERSİTESİ

NESRİN NURAL, KARADENİZ TEKNİK ÜNİVERSİTESİ

NEŞE KAKLIKKAYA, KARADENİZ TEKNİK ÜNİVERSİTESİ

NEZİHE GÖKHAN, MALATYA TURGUT ÖZAL ÜNİVERSİTESİ

NITHEES VISHAKAN, NORTHERN PROVINCIAL DEPARTMENT OF INDIGENOUS MEDICINE, MINISTRY OF HEALTH, SRI LANKA

NİLGÜN KURU ALICI, HACETTEPE ÜNİVERSİTESİ

NİLGÜN ULUTAŞDEMİR, GÜMÜŞHANE ÜNİVERSİTESİ

NUR ELÇİN BOYACIOĞLU, İSTANBUL ÜNİV. (CERRAHPAŞA)
NURAY DEMİRCİ GÜNGÖRDÜ, RTE ÜNİVERSİTESİ
NURAY ŞAHİN ORAK, NİŞANTAŞI ÜNİVERSİTESİ
NURAY VAROL, GAZİ ÜNİVERSİTESİ
NURCAN ÇALIŞKAN, GAZİ ÜNİVERSİTESİ
NURCAN YABANCI AYHAN, ANKARA ÜNİVERSİTESİ
NURÇİN KÜÇÜK KENT, GÜMÜŞHANE ÜNİVERSİTESİ
NURDAN ORAL KARA, BURDUR MEHMET AKİF ERSOY ÜNİV.
NURGÜL BÖLÜKBAŞ, ORDU ÜNİVERSİTESİ
NURGÜL KARAKURT, ERZURUM TEKNİK ÜNİVERSİTESİ
NURİ GÜLEŞÇİ, GÜMÜŞHANE ÜNİVERSİTESİ
NURPERİHAN TOSUN, SİVAS CUMHURİYAT ÜNİVERSİTESİ
NURPERİHAN TOSUN, SİVAS CUMHURİYET ÜNİVERSİTESİ
NURŞEN KULAKAÇ GÜMÜŞHANE ÜNİVERSİTESİ
NURTEN GÜLSÜM BAYRAK GİRESUN ÜNİVERSİTESİ
NURTEN TERKES, BURDUR MEHMET AKİF ERSOY ÜNİV.
OĞUZ IŞIK, HACETTEPE ÜNİVERSİTESİ
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ZEYNEP ERDOĞAN, ZONGULDAK BÜLENT ECEVİT ÜNİV.

ZEYNEP KARAMAN ÖZLÜ, ATATÜRK ÜNİVERSİTESİ

ZEYNEP MİNE COŞKUN, DEMİROĞLU BİLİM ÜNİVERSİTESİ

ZEYNEP ÖZTÜRK ERZURUM TEKNİK ÜNİVERSİTESİ

ZEYNEP TEMİZ, ARTVİN ÇORUH ÜNİVERSİTESİ

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Diet and Exercise Habits of Nursing Academics During The Pandemic

Hemşire Akademisyenlerin Pandemi Döneminde Beslenme ve Egzersiz Alışkanlıkları

İsa ÇELİK[1], Ayten YILMAZ YAVUZ[2], Mehtap METİN KARASLAN[3], Murat BEKTAŞ[4]

ABSTRACT

This study aimed to examine the effects of social isolation during COVID-19 pandemic on dietary and exercise habits of nursing academics.

This cross-sectional study included 393 nursing academics from Turkey who consented to participate. During lockdown due to the COVID-19 pandemic, approximately 10% of the participants received professional support for diet and exercise. Habits like consuming immune-boosting foods and passive leisure time increased, while fast food consumption decreased. The academics' descriptive characteristics accounted for 11% of the variance in diet scores and 6% in exercise scores. The academics' experiences with their dietary and exercise habits during the pandemic accounted for 9% of the variance in diet scores and 28% in exercise scores. During the pandemic, 26.7% of academics reported that people around them sought advice from them about exercise. Furthermore, 38.2% of academics stated that people around them asked them for advice on nutrition during the pandemic.

Therefore, it's crucial for nursing academics to exhibit healthy lifestyle behaviors during the pandemic, serving as role models to enhance public awareness of proper diet and exercise.

Key Words: Academic, Healthy Lifestyle Behaviors, Nurse, Diet, Exercise

ÖZ

Bu çalışma, COVID-19 salgını sırasında sosyal izolasyonun hemşirelik akademisyenlerinin beslenme ve egzersiz alışkanlıklarına etkisini incelemeyi amaçlamıştır.

Kesitsel tipteki bu çalışmaya Türkiye'den katılmayı kabul eden 393 hemşirelik akademisyeni dahil edildi. COVID-19 salgını nedeniyle karantina sırasında katılımcıların yaklaşık %10'u diyet ve egzersiz konusunda profesyonel destek aldı. Bağışıklık sistemini güçlendirici gıda tüketme ve pasif boş zaman geçirme gibi alışkanlıklar artarken fast food tüketimi azaldı. Akademisyenlerin tanımlayıcı özellikleri diyet puanlarındaki varyansın %11'ini, egzersiz puanlarındaki varyansın ise %6'sını açıklamaktadır. Akademisyenlerin pandemi sürecindeki beslenme ve egzersiz alışkanlıklarına ilişkin deneyimleri, diyet puanlarındaki varyansın %9'unu, egzersiz puanlarındaki varyansın ise %28'ini açıkladı. Akademisyenlerin %26,7'si pandemi döneminde çevrelerindeki kişilerin egzersiz konusunda kendilerinden tavsiye aldığını bildirdi. Ayrıca akademisyenlerin %38,2'si salgın döneminde çevrelerindeki kişilerin beslenme konusunda kendilerinden tavsiye istediğini belirtti.

Bu nedenle hemşirelik akademisyenlerinin pandemi sırasında sağlıklı yaşam tarzı davranışları sergilemeleri, doğru beslenme ve egzersiz konusunda toplumsal farkındalığın artırılmasında rol model olmaları büyük önem taşıyor.

Anahtar Kelimeler: Akademik, Sağlıklı Yaşam Tarzı Davranışları, Hemşire, Diyet, Egzersiz

[1]Arş. Gör. Dr. İsa ÇELİK, Çocuk Sağlığı ve Hastalıkları Hemşireliği, Recep Tayyip Erdoğan Üniversitesi, Sağlık Bilimleri Fakültesi, isa.celik@erdogan.edu.tr ORCID: 0000-0003-3381-2286
[2]Doç. Dr. Ayten YILMAZ YAVUZ, Halk Sağlığı Hemşireliği, Recep Tayyip Erdoğan Üniversitesi, Sağlık Bilimleri Fakültesi, ayten.yilmaz@erdogan.edu.tr ORCID: 0000-0002-5861-4254
[3]Dr. Öğr. Üyesi Mehtap METİN KARAASLAN, Çocuk Sağlığı ve Hastalıkları Hemşireliği, Recep Tayyip Erdoğan Üniversitesi, Sağlık Bilimleri Fakültesi, mehtap.karaaslan@erdogan.edu.tr ORCID: 0000-0002-1575-3799
[4]Prof. Dr. Murat BEKTAŞ, Çocuk Sağlığı ve Hastalıkları Hemşireliği, Dokuz Eylül Üniversitesi, Hemşirelik Fakültesi, murat.bektas@deu.edu.tr ORCID: 0000-0003-3327-8204

İletişim / Corresponding Author: İsa ÇELİK
e-posta/e-mail: isa.celik@erdogan.edu.tr

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INTRODUCTION

A series of pneumonia cases with an unknown etiology were reported on December 30, 2019, in the city of Wuhan in the Hubei Province of China. The disease, known as COVID-19, was declared an international public health emergency by the World Health Organization (WHO) on January 30, 2020, and was later classified as a pandemic due to its rapid spread on March 11, 2020.[1] Clinical management of COVID-19 encompasses infection prevention, control measures, and supportive care, such as supplemental oxygen and mechanical ventilation when necessary.[2] Thus, a healthy and strong immune system offers protective effects against this infection. Diet and exercise are key strategies for strengthening the immune system and providing protection against infections.[3]

Measures such as social distancing, lockdown, curfew, travel restrictions, closure of institutions and workplaces, flexible working hours, distance education, and working from home during the ongoing pandemic have changed the daily routines of individuals.[4, 5] However, these measures have led to decreased physical activity, altered nutrition behaviors, increased sedentary time, disrupted sleep patterns, and reduced quality of life.[6, 7] Pandemic interventions, disrupting academic routines, have increased screen time and consequently led to overeating and higher energy intake.[7] Lockdown measures may have worsened exercise and nutrition behaviors, increasing the risk of weight gain, obesity, and ultimately, cardiometabolic risk and mortality.[7] Nutrition and exercise behaviors of nursing students were affected by lockdown. It is stated that nearly half of students (46.9%) gained weight, and the majority (56.7%) did not exercise regularly.[8] An innovative approach in the health system requires a society that is health-conscious and proactive in managing its own health.[9] Nurse academics have the crucial responsibility of raising health awareness among their peers, training them, and conducting health consultations with innovative, age-appropriate approaches. Nurse academics play an effective role in helping society adopt healthy lifestyle behaviors. Therefore, it's vital to assess academicians' health behaviors and foster the necessary changes. This study aimed to investigate the dietary and exercise habits of nurse academics and the factors affecting these habits during the pandemic period.

MATERIALS AND METHODS

Type and aim of the study

The aim of this descriptive and relational study was to investigate the dietary and exercise habits of nurse academics and the factors affecting these habits during the pandemic period. Reporting of the study was structured according to the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) checklist.

Research population and sample selection

The study was conducted from October 1 to December 1, 2020. The study population included 2.400 nurse academics working in Turkey. The sample size was determined as at least 332 using OpenEpi version 3, which is a publicly available statistical software (http://www.openepi.com), with an error of 0.05, 95% confidence interval, and 80% power to represent the universe. In Turkey, the field of nursing encompasses 9 departments (surgical diseases/ pediatric health and diseases/ internal diseases/ obstetrics and gynecology/ public health/ psychiatric nursing, nursing principles, nursing management and nursing education). To account for potential data loss, we sent data collection tools to 398 academicians, 20% more than the initial sample size, stratifying according to department and ensuring proportional selection. 393 academics voluntarily participated in the

study and fully completed the data collection forms.

Data collection instruments

The questionnaire form included 49 questions about the descriptive characteristics of the participants, their dietary and exercise habits, and their experiences during the pandemic.[10-13] Academics' dietary and exercise habits were assessed with the Healthy Lifestyle Behaviors Scale II (HLBS-II), a standard evaluation tool validated and deemed reliable in Turkey[14].

HLBS-II: The first version of this scale was developed by Walker et al. in 1987; it was revised in 1996 and called HLBS-II. This scale has been adapted to various languages; for this study, we used the Turkish version validated and deemed reliable by Bahar et al. HLBS-II is a 4-point Likert-type scale (1, never; 2, sometimes; 3, often; and 4, regularly).[14] Diet and physical activity subscales of the HLBS-II were used in this study. Physical activity, an essential element of a healthy lifestyle, measures how frequently an individual exercises. The Turkish validation of the scale reported a Cronbach's alpha of 0.94 for the entire scale, with 0.87 for the physical activity and 0.72 for the diet subscales, respectively[14]. For this study, the Cronbach's alpha values were 0.87 for the physical activity subscale and 0.73 for the diet subscale.

Data collection method

Data was collected via a structured online questionnaire created on Google Forms. Invitations were sent to the participants' corporate e-mail addresses registered in the Higher Education Council Information Management System and shared via social media (Facebook, Instagram, WhatsApp) accounts. Participants agreed to participate in the study by providing a digital informed consent form. Researchers monitored responses through the online form and concluded data collection upon reaching the target sample size.

Ethical aspect of the research

Throughout this study, the Helsinki Declaration on Human Rights was observed. Prior to the commencement of the research, we acquired the necessary permissions for utilizing the scale from its proprietor, and approval was obtained from the Ethics Committee (Decision No: 2020/23.03 28.09.2020). Participants were required to digitally sign an informed consent form before proceeding with the questionnaire.

Data analysis and evaluation

In terms of data analysis and evaluation, this study utilized the SPSS 23.0 Windows software for data processing. The normal distribution of the variables was assessed using the Kolmogorov-Smirnov test. To describe the general characteristics of the participants, descriptive statistics such as percentage, frequency, and mean were employed. We applied multiple linear regression analysis, utilizing the enter method, to determine descriptive variables influenced the diet and physical activity subscale scores on the HLBS-II. Before performing the multiple linear regression analysis, checks for multicollinearity and the normality of the data were conducted. A significance level of $p < .05$ was considered statistically significant.

RESULTS AND DISCUSSION

Of the participating nursing academics, 91.3% were female, 66.7% were married, 82.2% did not have chronic diseases, and 56.0% were without a PhD. The mean age of the participants was 36.66 ± 8.01 years, their professional experience was 12.88 ± 9.31 years, HLBS-II diet subscale score was 22.19 ± 3.74, physical activity subscale score was 16.12 ± 5.29, and the body mass index (BMI) was 24.05 ± 3.98 kg/m^2 [Table 1]. Assessment of the dietary and exercise habits of the academics during the pandemic period showed that 12.7% of them adopted a new dietary habit, 13.7% of them used a mobile application to monitor their diet, 43.5% of them used a mobile application to monitor their physical activity habits, and 9.9% received professional support for diet and exercise. During the pandemic, 26.7% of academics reported that people around them sought advice from them about exercise. Furthermore, 38.2% of academics stated that people around them asked them for advice on nutrition during the pandemic [Figure 1].

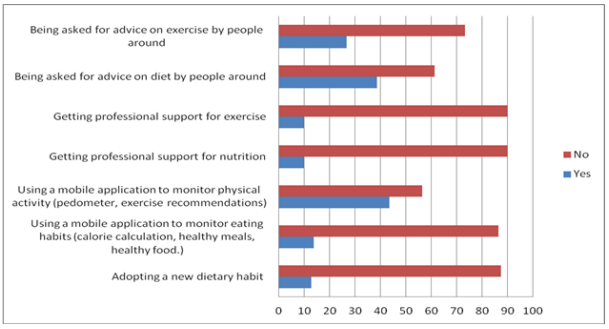

Figure 1. Experiences of Academics on Diet and Exercise During The Pandemic

Assessment of the changes in the diet and exercise habits of the academics during the pandemic period showed an increase in the habits such as consumption of foods that strengthen the immune system (50.1%), cooking and eating at home (64.4%), and time spent passively (watching TV and studying, 46.1%) and a decrease in the habits such as consumption of fast food (47.6%) and eating out (75.6%). In addition, consumption of healthy snacks (43.3%), consumption of water (40.2%), intake of nutritional supplements (40.2%), practicing sports or doing exercises at home (35.4%), playing outdoor sports and doing outdoor exercises (22.4%) increased. The consumption of sugar-sweetened beverages (34.0%), consumption of unhealthy snacks (34.4%), sugar consumption (34.9%), daily calorie intake (28.2%), consumption of salt (17.6%), time spent actively (21.1%), and exercising in the gym (48.3%) decreased [Figure 2].

Descriptive characteristics of the academics explained the 11% variance in the diet score and the 6% variance in the exercise score. The presence of chronic diseases (β = 0.158; p = .018) and being a PhD graduate (β = -0.256; p = .000) were significant predictors of the diet subscale of HLBS-II, and being a PhD graduate (β = 0.147; p = .035) was a significant predictor of the physical activity subscale [Table 2].

Table 1. Descriptive Characteristics of Academics

	Mean ± SD	
Age (years)	36.66 ± 8.01 (min: 23, max: 60)	
Professional experience (years)	12.88 ± 9.31 (min: 0, max: 42)	
Number of children	1.60 ± 0.59 (min: 1, max: 3)	
BMI (kg/m^2)	24.05 ± 3.98 (min: 16.41, max: 40.79)	
HLBS-II subscale score		
Diet	22.19 ± 3.74 (min: 10, max: 35)	
Physical activity	16.12 ± 5.29 (min: 8, max: 32)	
	n	**%**
Gender		
Female	359	91.3
Male	34	8.7
Marital Status		
Married	262	66.7
Single	131	33.3
Presence of chronic disease		
Yes	70	17.8
No	323	82.2
PhD graduate		
PhD graduate	173	44.0
Without a PhD	220	56.0

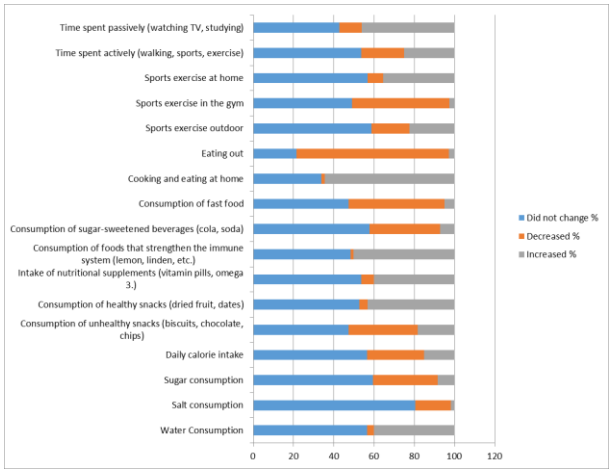

Figure 2. Changes In Diet and Exercise Habits of Academics During The Pandemic

Experiences of the academic in their dietary and exercise habits during the pandemic explained the 9% and 28% variance observed in the diet and physical activity scores, respectively. Adopting a new dietary habit (β = 0.146; p = .004), getting professional support for diet (β = 0.166; p = .001), being asked for advise on diet by people around (β = -0.175; p= .000) were significant predictors on the diet subscale of the HLBS-II. Using a mobile application to monitor the physical activity habits (β = 0.272; p = .000), getting professional support for exercise (β = 0.187; p = .000), and being asked for advice on exercise by people around (β = 0.285; p = .000) were found to be significant predictors of the physical activity subscale of the HLBS-II [Table 3].

Nursing academics are role models for the society for gaining healthy lifestyle behaviors regarding diet and exercise. Assessment of the experiences of the nursing academics during the pandemic process showed that one out of 10 academics got professional support on diet and exercise; however, approximately 13.0% of them adopted a new dietary habit, 14.0% used a mobile application to monitor their dietary habits, and 44.0% used a mobile application to monitor their physical activity habits. Moreover, out of 10 academics, 4 were asked for advice from the people around them on diet and 3 were asked for advice on exercise [Figure 1].

Table 2. Impact of Academics' Characteristics on Diet and Activity Scores (HLBS-II)

	Unstandardized Coefficients		Standardized Coefficients		
Variable	B	Std, Error	Beta	*t*	*p*
Diet					
Constant	22.022	2.155		10.219	.000
Gender	.551	.980	.038	.563	.574
Marital status	-1.335	1.020	-.087	-1.309	.192
Number of children	.151	.418	.024	.361	.718
Presence of chronic diseases	1.516	.636	.158	2.385	.018
PhD graduate	1.898	.499	.256	3.802	.000
BMI	-.015	.060	-.017	-.247	.805
R = .333 R^2 =.111	$F_{(6.207)}$= 5.106		*p* = .000		
Physical activity					
Constant	14.894	2.917		5.106	.000
Gender	.337	1.326	.018	.254	.800
Marital status	-2.508	1.380	-.124	-1.817	.071
Number of children	.949	.566	.115	1.676	.095
Presence of chronic diseases	.870	.861	.069	1.011	.313
PhD graduate	1.430	.676	.147	2.117	.035
BMI	-.008	.082	-.007	-.103	.918
R = .247	R^2 = .061	$F_{(6.207)}$ = 2.233		*p* = .041	

The pandemic has drastically changed the routine lifestyle habits because of the compulsory restrictions, which resulted in significant behavioral changes, especially in relation to dietary and exercise habits. The disruption of regular work schedules because of the restrictions led to a decrease in leisure activities and an increase in screen time, which led to overeating and thus more energy intake. Besides changes in food intake, energy expenditure decreased significantly because of the disruption in the daily routine.[7] Thus, the pandemic has necessitated the adoption of new dietary and exercise habits. Academics have an important position in society because of the role they play in

imparting education. In particular, academics working in health-related fields should take the responsibility of being a role model for the society and students by displaying positive health behaviors.[15] Thus, in order for the academics to be role models, it is very important for them to adopt and exhibit healthy lifestyle behaviors. Mobile health applications that enable management of a healthy lifestyle and track changes in health behavior can be used to monitor health continuously, get feedback, and support behavioral change by using communication devices such as smartphones, smart watches, wearable or portable wireless sensors, tablets, and computers. Such mobile health applications allow individuals to obtain a count of their steps, number of calories that they burn, and their diets.[16] Mobile health applications are an effective and efficient way of communication that provide many benefits such as instant access to information and educating users in healthcare. The use of devices connected to the Internet is increasing every day, and these devices can be very beneficial in improving health outcomes, reducing costs, and strengthening our fight against the COVID-19 epidemic. Further, the use of mobile applications for the management of the pandemic can help in finding solutions to individual problems, providing information, maintaining health, and complying with the measures and recommendations prescribed by the state.[17]

A recent study indicates that the use of platforms that provide mobile application services related to health and diet are useful tools in reducing the negative impact of the lockdown on lifestyle[18]. Nursing academics are thus expected to check their health-related behaviors using mobile health applications, and thereby, be good role models by sharing positive health behaviors. To meet the expectations of society or the individuals around them, nurse academics should highlight their roles as health consultants and health educators.

Table 3. Impact of Academics' Pandemic Experiences on Diet and Activity Scores (HLBS-II)

	Unstandardized Coefficients		Standardized Coefficients	*t*	*p*
Variable	B	Std. Error	Beta		
Diet					
Constant	21.411	.239		89.658	.000
Adopting a new dietary habit	.466	.159	.146	2.929	.004
Using a mobile application to monitor dietary habits	-.760	.560	-.070	-1.357	.176
Getting professional support for diet	2.069	.644	.166	3.213	.001
Being asked for advice on diet by people around	1.341	.378	.175	3.545	.000
R= .305 R^2=.093 F=9.923 p=.000					
Physical activity					
Constant	13.619	.317		42.914	.000
Using a mobile application to monitor physical activity	2.895	.475	.272	6.091	.000
Getting professional support for exercise	3.299	.808	.187	4.082	.000
Being asked for advice on exercise by people around	3.408	.554	.285	6.156	.000
R= .527 R^2=.278 F=49.885 p=.000					

A recent study indicates that the use of platforms that provide mobile application services related to health and diet are useful tools in reducing the negative impact of the lockdown on lifestyle.[18] Nursing academics are thus expected to check their health-related behaviors using mobile health applications, and thereby, be good role models by sharing positive health behaviors. To meet the expectations of society or the individuals around them, nurse academics

should highlight their roles as health consultants and health educators.

Results of this study showed that the nurse academics showed an increase in habits such as cooking at home, consumption of foods that strengthen the immune system, consumption of healthy snacks, consumption of water, taking nutritional supplements, doing sports-exercise at home, and doing sports-exercise outdoors during the pandemic period, and habits such as eating out, consumption of fast food, consumption of sugar-sweetened beverages, consumption of unhealthy snacks, sugar consumption, daily calorie intake, salt consumption, time spent actively, and exercising in the gym decreased [Figure 2]. Previous studies have reported that especially during the pandemic period, a positive change in eating behavior includes the consumption of ready-to-eat foods, not skipping breakfast frequently, decreasing the consumption of fried food, and increasing the frequency of consumption of fruits. A negative change in the eating behavior includes an increase in the consumption of sugar and sugary drinks. In addition, an increase of 25.8% and 43.5% was reported in the consumption of healthy snacks and unhealthy snacks, respectively, and individuals with healthy eating habits showed high levels of physical activity.[19] Although the overall nutritional quality did not improve because of the lockdown, families increased their intake of legumes, fruits, and vegetables as they had more time to cook and improve their eating habits, and an increased behavior of consuming sweet foods was observed.[20] Previous studies showed that during the lockdown, a significant increase was reported in the intake of dairy products, vegetables, snacks, and sugary foods as well as in the daily hours spent without doing any physical activity.[21] In addition, compared to 2019, 2020 had a significant decrease in the number of daily steps by individuals in different European countries ranging from 7% to 38%.[22] Because of the restrictions associated with the pandemic, families are trying to improve their eating habits by cooking at home, avoiding readymade foods, and increasing consumption of vegetables and fruits.[20, 23] Similarly, nurse academics in this study showed a tendency to exhibit positive eating habits, but a significant change was not observed in their physical activity habits. In the recent years, efforts to promote an active lifestyle and increase awareness about health have led to an increase in the use of gyms by individuals. Gyms have started to be the preferred alternative places by people who are in a good socioeconomic position but have limited time and want to move away from the intense pressures of business and city life and to do sports regularly by taking professional support.[23, 24] Further, an individual has the opportunity to discover himself by participating in sports activities.[25] During the COVID-19 pandemic, the effects of which are felt globally, many public places such as gyms were shut down to prevent physical contact of individuals within the scope of "mask, distance, and hygiene" measures; this significantly affected the habits of people who regularly used these places. Frequency of walking and moderate- and high-intensity sports decreased during the pandemic period.[26, 27] Although almost half of the academics participating in the study showed a decrease in the habit of doing exercise in the gym, the rate of doing sports and exercises at home or outdoors did not increase at the same rate. To prevent this decrease in regular workout from having an adverse effect on the health of the academics, studies informing them about doing exercise at home or outdoors and increasing their awareness should be performed, and the academics should be supported by their institutions and the public to receive professional online training.

Among the descriptive characteristics of the academics, the presence of chronic disease and being a PhD graduate were found to be significant predictors of the diet subscale of the HLBS-II, and being a PhD graduate was also a significant predictor of the physical activity subscale [Table 2]. Lockdown is an unpleasant experience for people during the pandemic. Events such as loss of freedom during the pandemic, uncertainty about the illness, and inability to

manage leisure time effectively can affect the health of the individuals. Staying active and maintaining a routine of physical exercise during lockdown is very important for mental and physical health.[18] Insufficient physical activity, inability to follow healthy and balanced diet are associated with metabolic disorders such as obesity, cardiovascular diseases, and type 2 diabetes.[28] Previous studies have shown a relationship between young age and low education level and unhealthy lifestyles.[29] Healthy lifestyle behaviors during the pandemic are negatively related to the economic status of the participants.[27] This study shows that with PhD graduate have adopted a healthier lifestyle. In addition, the effects of the COVID-19 disease are more severe, particularly in individuals with a chronic disease diagnosis, and thus, academics with chronic diseases are more conscious and exhibit healthier behaviors.

Among the academics' experiences regarding diet during the pandemic, adopting a new dietary habit, and receiving professional support for diet are significant predictors of the diet subscale of the HLBS-II. On the other hand, from the experiences of the academics regarding exercise during the pandemic process, getting professional support for exercise, and being asked for advice on exercise by people around are significant predictors on the physical activity subscale [Table 3]. In the study, the mean scores of the diet and physical activity subscales of the HLBS-II were found to be 22.19 ± 3.74 and 16.12 ± 5.29, respectively [Table 1]. The nursing academics exhibited moderate level of healthy lifestyle behaviors because higher scores obtained from the scale indicate that the individual adopts health behaviors at a high level.[14] Hacihasanoglu et al. (2020) found that the mean scores of the instructors on the HLBS-II diet and physical activity subscale scores were 16.86 ± 3.23 and 10.09 ± 3.24, respectively.[30] The difference between the results may be attributed to the higher health literacy of nursing academics and the support that they received via mobile applications for the control of dietary and physical activity habits. Diet and physical activity are considered as essential components of human health and lifestyle. Today, lifestyle is seen as a multidimensional structure that includes a wide range of behaviors such as substance use, stress management, social support, and use of digital technology.[29]

Health literacy and e-health literacy are recommended as strategic approaches for a healthy lifestyle. The COVID-19 pandemic has created a complex information environment that requires people to be able to access, understand and critically evaluate information and services in ways that support healthy and protective behavior. Therefore, health literacy, which includes the ability to find, understand, evaluate, and apply health information in health behavior, is of great importance during the current pandemic. Digital health literacy applies this understanding of health literacy to digital environments and has become a fundamental requirement.[31] A previous study found that the health literacy level of academics was insufficient (28.8%), but the use of preventive health services and positive health behavior characteristics increased in individuals with high health literacy.[32] Another study reported that individuals with higher e-health literacy stated that they participate better in positive behaviors that improve health.[33] A study conducted with medical PhD graduate showed that the HLBD-II was a predictor of quality of life.[34] Therefore, nurse academics' awareness level about diet and physical activity and the use of technology have positive effects on healthy lifestyle behaviors. The results of a study conducted on nursing students during the pandemic period showed that the nutritional behaviors of nursing students were adversely affected during the social isolation process due to the COVID-19 pandemic, their eating patterns were disrupted, and nearly half of them gained weight. In addition, it was stated that the students made up the majority of students who did not exercise regularly before and during the pandemic.[8] It is clear that nurse academicians will be role models and contribute to the improvement of their own

health and then the health of the society in the training of this group that will serve the society.

Limitation and Strength

The study included only the nursing academics who were registered in the Information Management System of the Council of Higher Education, who were working in the field of nursing, and who agreed to participate in the study by completing online data collection tools. The research results in question can only be generalized to the sample group in the current research. The study data were limited to academics' self-reports, and given that this was a cross-sectional study, the study results only reflect the situation at the time of data collection.

CONCLUSION AND RECOMMENDATIONS

This research revealed the changes in physical activity and nutritional habits of nurse academics during the pandemic, as well as the factors affecting their nutrition and physical activity habits. Additionally, nursing academics reported that people around them sought information from them on nutrition and exercise during the pandemic. The pandemic and the restrictions associated with it have affected people in every part of the society as well as nursing academics. The rate of e-health literacy of academics will increase with an increase in the use of technology, thus leading to an increase in diet and physical activity levels. Academics and public health providers who play an active role in the formation and implementation of policies for increasing the awareness of society about health behaviors should be aware of the importance of diet and physical activity. Awareness studies should be performed by organizing programs and public service announcements on diet and physical activity through television that is easily accessible by the majority of people. A greater emphasis should be placed on health consultancy and providing training for such consultancy by health professionals who are responsible for the protection and development of public health, and individual programs should be implemented. It is very important to prepare informative guidelines and educate academics about dietary habits, meal schedules, regular exercise, and healthy nutrition.

REFERENCES

1. Velavan, T. P. and Meyer, C. G. (2020). “The COVID-19 epidemic”. Tropical medicine & international health: TM & IH, 25(3), 278–280. https://doi.org/10.1111/tmi.13383
2. Centers for Disease Control and Prevention. (2021). “Interim clinical guidance for management of patients with confirmed coronavirus disease (COVID-19)”. https://stacks.cdc.gov/view/cdc/89980 (Erişim tarihi: 15-06-2021)
3. Jayawardena, R., Sooriyaarachchi, P., Chourdakis, M., Jeewandara, C. and Ranasinghe, P. (2020). “Enhancing immunity in viral infections, with special emphasis on COVID-19: A review”. Diabetes & metabolic syndrome, 14(4), 367–382. https://doi.org/10.1016/j.dsx.2020.04.015
4. Akbaş, Ö.Z. and Dursun, C. (2020). “Mothers Interpolating Public Space Into Private Space During The Coronavirus (COVID-19) Pandemic”. Eurasian Journal of Social and Economic Research (EJSER), 7(5), 78-94.
5. Pinto, A. J., Dunstan, D. W., Owen, N., Bonfá, E. and Gualano, B. (2020). “Combating physical inactivity during the COVID-19 pandemic”. Nature reviews. Rheumatology, 16(7), 347–348. https://doi.org/10.1038/s41584-020-0427-z
6. Hammami, A., Harrabi, B., Mohr, M. and Krustrup, P. (2020). “Physical activity and coronavirus disease 2019 (COVID-19): specific recommendations for home-based physical training”. Managing Sport and Leisure, 27(1–2), 26–31. https://doi.org/10.1080/23750472.2020.1757494
7. Lucini, D., Gandolfi, C. E., Antonucci, C., Cavagna, A., Valzano, E., Botta, E., Chiari, M., Mameli, L., Nahum, M., Brambilla, M. M., Castaldi, S. and Biganzoli, E. (2020). “#StayHomeStayFit: UNIMI's approach to online healthy lifestyle promotion during the COVID-19 pandemic”. Acta bio-medica: Atenei Parmensis, 91(3), e2020037. https://doi.org/10.23750/abm.v91i3.10375
8. Özden, G. and Parlar Kiliç, S. (2021). “The Effect of Social Isolation during COVID-19 Pandemic on Nutrition and Exercise Behaviors of Nursing Students”. Ecology of food and nutrition, 60(6), 663–681. https://doi.org/10.1080/03670244.2021.1875456
9. Tezcan, C. (2016), "Sağlığa YenilikçiBir Bakiş Açisi: Mobil Sağlik", TÜSİAD Mobil Sağlık Raporu.
10. Wu, Z. and McGoogan, J. M. (2020). “Characteristics of and Important Lessons From the Coronavirus Disease 2019 (COVID-19) Outbreak in China: Summary of a Report of 72 314 Cases From the Chinese Center for Disease Control and Prevention”. JAMA, 323(13), 1239–1242. https://doi.org/10.1001/jama.2020.2648

11. Zbinden-Foncea, H., Francaux, M., Deldicque, L. and Hawley, J. A. (2020). "Does High Cardiorespiratory Fitness Confer Some Protection Against Proinflammatory Responses After Infection by SARS-CoV-2?". Obesity (Silver Spring, Md.), 28(8), 1378–1381. https://doi.org/10.1002/oby.22849
12. British Dietetic Association. (2021). "COVID-19/Coronavirus - Advice for the General Public". https://www.bda.uk.com/resource/covid-19-corona-virus-advice-for-the-general-public.html (Erişim tarihi: 30-07-2021).
13. World Health Organization. (2021). "Physical activity". https://www.who.int/news-room/fact-sheets/detail/physical-activity (Erişim tarihi: 20-06-2021).
14. Bahar, Z. (2008). "Healthy life style behavior scale II: A reliability and validity study". Journal of Cumhuriyet University School of Nursing, 12(1), 1
15. Gursel, N., Ozbey, S. and Guzel, P. (2016). "Healthy Lifestyle Behaviors and Life Quality of Instructors". International Journal of Social Science Research, 5(2), 10-25.
16. Samples, C., Ni, Z. and Shaw, R. J. (2014). "Nursing and mHealth". International Journal of Nursing Sciences, 1(4), 330–333. https://doi.org/10.1016/j.ijnss.2014.08.002
17. Vladoescu, C., Tunea, M. and Stanciu, L. (2020). "Benefits of Using Mobile Applications to Keep Under Control, Detect, Attenuate and Monitor COVID-19 Pandemic". 2020 International Conference on E-Health and Bioengineering (EHB). https://doi.org/10.1109/ehb50910.2020.9280229
18. Mattioli, A. V., Sciomer, S., Cocchi, C., Maffei, S. and Gallina, S. (2020). "Quarantine during COVID-19 outbreak: Changes in diet and physical activity increase the risk of cardiovascular disease". Nutrition, metabolism, and cardiovascular diseases: NMCD, 30(9), 1409–1417. https://doi.org/10.1016/j.numecd.2020.05.020
19. Flanagan, E. W., Beyl, R. A., Fearnbach, S. N., Altazan, A. D., Martin, C. K. and Redman, L. M. (2021). "The Impact of COVID-19 Stay-At-Home Orders on Health Behaviors in Adults". Obesity (Silver Spring, Md.), 29(2), 438–445. https://doi.org/10.1002/oby.23066
20. Ruiz-Roso, M. B., de Carvalho Padilha, P., Mantilla-Escalante, D. C., Ulloa, N., Brun, P., Acevedo-Correa, D., Arantes Ferreira Peres, W., Martorell, M., Aires, M. T., de Oliveira Cardoso, L., Carrasco-Marín, F., Paternina-Sierra, K., Rodriguez-Meza, J. E., Montero, P. M., Bernabè, G., Pauletto, A., Taci, X., Visioli, F. and Dávalos, A. (2020). "Covid-19 Confinement and Changes of Adolescent's Dietary Trends in Italy, Spain, Chile, Colombia and Brazil". Nutrients, 12(6), 1807. https://doi.org/10.3390/nu12061807
21. Ruiz-Roso, M. B., Knott-Torcal, C., Matilla-Escalante, D. C., Garcimartín, A., Sampedro-Nuñez, M. A., Dávalos, A. and Marazuela, M. (2020). "COVID-19 Lockdown and Changes of the Dietary Pattern and Physical Activity Habits in a Cohort of Patients with Type 2 Diabetes Mellitus". Nutrients, 12(8), 2327. https://doi.org/10.3390/nu12082327
22. Staff, F. (2020). "The impact of coronavirus on global activity". Fitbit News.
23. Jung, W.J. and Choi, J.Y. (2016). "The relationship between service quality, service satisfaction, and repurchase intention of participants in sports centers". The Korean Journal of Sports Science, 25(2), 521-531.
24. Whytcross, D. (2014). "Gyms and fitness centres in Australia: Market research report". Melbourne: IBISWorld.
25. Im Y. and Kim J. (2015). "The effect of customer service guarantee of sports centers on service quality, service reliability, service value, and customer loyalty". Korea J Sport;13(4):345–62.
26. Haleem, A., Javaid, M. and Vaishya, R. (2020). "Effects of COVID-19 pandemic in daily life". Current medicine research and practice, 10(2), 78–79. https://doi.org/10.1016/j.cmrp.2020.03.011
27. Wang, J., Yeoh, E. K., Yung, T. K. C., Wong, M. C. S., Dong, D., Chen, X., Chan, M. K. Y., Wong, E. L. Y., Wu, Y., Guo, Z., Wang, Y., Zhao, S. and Chong, K. C. (2021). "Change in eating habits and physical activities before and during the COVID-19 pandemic in Hong Kong: a cross-sectional study via random telephone survey". Journal of the International Society of Sports Nutrition, 18(1), 33. https://doi.org/10.1186/s12970-021-00431-7
28. Corder, K., Winpenny, E. M., Foubister, C., Guagliano, J. M., Hartwig, X. M., Love, R., Clifford Astbury, C. and van Sluijs, E. M. F. (2020). "Becoming a parent: A systematic review and meta-analysis of changes in BMI, diet, and physical activity". Obesity reviews: an official journal of the International Association for the Study of Obesity, 21(4), e12959. https://doi.org/10.1111/obr.12959
29. Balanzá-Martínez, V., Kapczinski, F., de Azevedo Cardoso, T., Atienza-Carbonell, B., Rosa, A. R., Mota, J. C. and De Boni, R. B. (2021). "The assessment of lifestyle changes during the COVID-19 pandemic using a multidimensional scale". Revista de psiquiatria y salud mental, 14(1), 16–26. https://doi.org/10.1016/j.rpsm.2020.07.003
30. Hacıhasanoğlu, R., Yıldırım, A., Karakurt, P. and Çelebi, F. (2020). "Healthy Lifestyle Behaviors and Affecting Factors in University Staff". Turkish Journal of Family Medicine and Primary Care, 14(1), 72–81. https://doi.org/10.21763/tjfmpc.693105
31. Dadaczynski, K., Okan, O., Messer, M., Leung, A. Y. M., Rosário, R., Darlington, E. and Rathmann, K. (2021). "Digital Health Literacy and Web-Based Information-Seeking Behaviors of University Students in Germany During the COVID-19 Pandemic: Cross-sectional Survey Study". Journal of Medical Internet Research, 23(1), e24097. https://doi.org/10.2196/24097
32. Doğan, M. and Çetinkaya, F. (2019). "The Level Of Health Literacy Of Academicians and Factors Affecting It". Hacettepe Sağlık İdaresi Dergisi, 22(2), 389-400.
33. Duong, T. V., Pham, K. M., Do, B. N., Kim, G. B., Dam, H. T. B., Le, V. T., Nguyen, T. T. P., Nguyen, H. T., Nguyen, T. T., Le, T. T., Do, H. T. T. and Yang, S. H. (2020). "Digital Healthy Diet Literacy and Self-Perceived Eating Behavior Change during COVID-19 Pandemic among Undergraduate Nursing and Medical Students: A Rapid Online Survey". International journal of environmental research and public health, 17(19), 7185. https://doi.org/10.3390/ijerph17197185
34. Devran, H., Beyazıt Üçgün, A., Yürekli, M. V. ve Uskun, E. (2021). "Yaşam kalitesinin yordayıcısı olarak sağlıklı yaşam biçimi davranışları: Tıp Fakültesi öğretim elemanları örneği". Turkish Journal of Public Health, 19(1), 55-68. https://doi.org/10.20518/tjph.763355

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The Relationship Between Students' COVID-19 Perception and Healthy Eating Attitudes: A University Example

Öğrencilerin COVİD-19 Algısı ile Sağlıklı Beslenme Tutumları Arasındaki İlişki: Bir Üniversite Örneği

Mehmetcan KEMALOĞLU[1]

ABSTRACT

During the COVID-19 pandemic, eating habits have changed and weight has increased significantly due to increasing fear and anxiety, especially among school-age children and young people. This study was conducted to evaluate whether there is a relationship between students' COVID-19 perceptions and attitudes and their healthy eating attitudes. The cross-sectional study was conducted with 388 students. Participants were administered a three-stage online questionnaire consisting of 'Demographic Characteristics Form', 'Attitude Scale on Healthy Nutrition' and 'Scale for the Evaluation of Perceptions and Attitudes Towards the Coronavirus Pandemic'. A statistically significant difference was found only in the personal sub-dimension of the scale for evaluating perceptions and attitudes towards the COVID-19 pandemic according to COVID-19 status. A weak positive correlation was found between the and cognitive avoidance (r:0.232, p<0.001) sub-dimension of the scale for evaluating perceptions and attitudes towards the COVID-19 pandemic and the Attitudes Towards Healthy Eating Scale. A very weak negative relationship was found between the belief (r:-0.113, p:0.025) and avoidance of personal contact (r:-0.157, p:0.002) sub-dimensions and the Attitudes Towards Healthy Eating Scale. In the study, it was determined that having COVID-19 disease and gender affected COVID-19 perceptions and attitudes. In addition, weak but significant relationships were found between healthy eating attitudes and COVID-19 perceptions and attitudes.

Keywords: COVID-19 perception, Healthy eating, University student

ÖZ

COVİD-19 pandemisi döneminde özellikle okul çağındaki çocuk ve gençlerde artan korku ve endişe nedeniyle beslenme alışkanlıkları değişmiş ve ağırlık önemli ölçüde arttırmıştır. Araştırma, öğrencilerin COVİD-19 algı ve tutumları ile sağlıklı beslenme tutumları arasında bir ilişki olup olmadığını değerlendirmek amacı ile yürütülmüştür. Kesitsel tipte tasarlanmış olan çalışma 388 öğrenci ile gerçekleştirilmiştir. Katılımcılara, 'Demografik Özellikler Formu', 'Sağlıklı Beslenmeye İlişkin Tutum Ölçeği' ve 'Koronavirüs Salgınına Yönelik Algı ve Tutumların Değerlendirilmesi Ölçeği'nden oluşan üç aşamalı çevrimiçi anket uygulanmıştır. COVİD-19 geçirme durumlarına göre sadece COVİD-19 salgınına yönelik algı ve tutumları değerlendirme ölçeği kişisel alt boyutunda istatistiksel olarak anlamlı fark tespit edilmiştir. COVİD-19 salgınına yönelik algı ve tutumları değerlendirme ölçeği bilişsel kaçınma (r:0.232, p<0.001) alt boyutu ile Sağlıklı Beslenmeye İlişkin Tutum Ölçeği arasında pozitif yönde zayıf bir ilişki tespit edilmiştir. İnanç (r:-0.113, p:0.025) ve kişisel temastan kaçınma (r:-0.157, p:0.002) alt boyutları ile Sağlıklı Beslenmeye İlişkin Tutum Ölçeği arasında ise negatif yönde çok zayıf bir ilişki tespit edilmiştir. Çalışmada COVİD-19 hastalığı geçirmenin ve cinsiyetin COVİD-19 algı ve tutumlarını etkilediği tespit edilmiştir. Ayrıca sağlıklı beslenme tutumları ile COVİD-19 algı ve tutumları arasında zayıf fakat anlamlı ilişkiler bulunmuştur.

Anahtar Kelimeler: COVİD-19 algısı, Sağlıklı beslenme, Üniversite öğrencisi

Ethical approval was obtained from the Scientific Research Ethics Committee of Agri Ibrahim Cecen University (date: 2022/11 number: 223). The study received research support under Tubitak 2209-A project with the application number 1919B012111236.

Ress. Asst., Mehmetcan KEMALOĞLU, Nutrition and Dietetics, Agri Ibrahim Cecen University, Nutrition and Dietetics Department, mkemaloglu@agri.edu.tr, ORCID: 0000-0002-0334-3987

İletişim / Corresponding Author: Mehmetcan KEMALOĞLU
e-posta /e-mail: mkemaloglu@agri.edu.tr

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INTRODUCTION

The COVID-19 pandemic has not only posed significant challenges to public health systems worldwide but has also brought about profound implications for various aspects of human life, including dietary habits and perceptions of the disease.[1] As the pandemic continues to unfold, understanding the interplay between individuals' perceptions and attitudes towards COVID-19 and their dietary behaviors has emerged as a critical area of investigation. Recent studies have underscored the complex relationship between COVID-19 perceptions and attitudes and health-related behaviors, with particular emphasis on the role of nutrition in mitigating the impact of the pandemic. For instance, Wise et al. (2020) explored the association between COVID-19 risk perceptions and dietary behaviors among adults in the United States, highlighting the potential influence of perceived susceptibility to the virus on dietary choices.[2] Similarly, in a study among Brazilian adults, Freitas et al. (2021) found that individuals with higher levels of COVID-19-related anxiety were more likely to engage in unhealthy eating behaviors, suggesting a link between psychological distress and dietary patterns during the pandemic.[3] Furthermore, the study by Ortenburger et al. (2021) conducted a cross-sectional investigation into the relationship between COVID-19 anxiety and dietary patterns among university students, revealing significant associations between psychological distress and unhealthy eating habits.[4] Additionally, Sadler et al. (2021) revealed the impact of COVID-19-related stress on food choices and nutritional intake among adults, shedding light on the intricate links between psychosocial factors and dietary behaviors during the pandemic.[5] Despite these valuable insights, gaps remain in our understanding of how COVID-19 perceptions and attitudes intersect with healthy eating attitudes, particularly among university students, who represent a unique demographic cohort facing distinct challenges in navigating the pandemic landscape. Therefore, in this study, the possible relationship between university students' COVID-19 perceptions and attitudes and healthy eating attitudes was investigated. Evaluations were made according to gender and Covid-19 exposure status.

MATERIAL AND METHOD

Subjects

The study was designed as a cross-sectional study to evaluate the possible relationship between students' perceptions and attitudes about COVID-19 and their healthy eating attitudes. It was conducted at Agri Ibrahim Cecen University between October and December 2022. The universe of the study; Agri Ibrahim Cecen University; It consists of students studying at the university's campus. According to data received from Agri Ibrahim Cecen University, a total of 12,193 students receive education. In a study investigating perceived stress among students in Turkey during the COVID-19 pandemic, it was found that 71.23% of students had high perceived stress levels.[6] Considering this data, the sample size was calculated as 372 people with a 95% confidence level (α=0.05) and 99% power (β=0.01) using the OpenEpi Analysis program. Considering the possible problems that may occur during the study process, the number of samples was determined as 400. The participants of the study were selected by simple random sampling method from students aged eighteen and over. The students' departments were not taken into consideration within the scope of the research. Only nutrition and dietetics students who were assumed to have a high level of nutritional knowledge were excluded from the study. The study concluded that, a total of 420 people were achieved. When the data obtained was examined, it was determined that 25 people entered incomplete data and 7 people entered incorrect data. The data of a total of 32 people were excluded

and statistical analysis was performed on 388 people.

Data Collection Tools

A three-stage online survey (it was created with Google forms and shared via WhatsApp and Telegram groups) consisting of the 'Demographic Characteristics Form', 'Attitude Scale on Healthy Nutrition' and Perceptions and Attitudes towards COVID-19 Pandemic Scale' was applied to the participants.

Demographic Characteristics Form: The form prepared by the researcher by review the literature (age, gender, grade, cigarette and alcohol using, regular exercise (at least 150 minutes/week of moderate-intensity aerobic physical activity), COVID-19 history) consists of 11 questions.

Attitude Scale on Healthy Nutrition (ASHN): ASHN consists of 21 items and 4 subscales in total. In the scale evaluated with a 5" likert type ("I strongly disagree", "I disagree", "I am undecided", "I agree", "I strongly agree"), the items related to positive attitude are; Items related to 1, 2, 3, 4 and 5 negative attitudes were scored as 5, 4, 3, 2 and 1. The total of points that can be obtained varies between 21-105. The increase in total scores indicates that the participants' attitudes towards healthy eating have increased. The participants' scores were interpreted as 0-21 very low, 22-42 low, 43-63 medium, 64-84 high and 85-105 having an attitude towards healthy eating at the ideal level. The Turkish validity and reliability of the study was performed by Demir et al.[7]

Perceptions and Attitudes towards COVID-19 Pandemic Scale: The scale consists of 53 item 4 sub-dimensions and is evaluated with 5" likert type ("I strongly disagree", "I disagree", "I am undecided", "I agree", "I strongly agree"). All sub-dimensions are evaluated independently and separate scores are obtained. It is also possible to evaluate sub-dimensions independently. High scores for all sub-dimensions indicate that the belief in that sub-dimension is high. The Turkish validity and reliability of the study was conducted by Artan et al.[8] The study received support under Tubitak 2209-A project with the application number 1919B012111236.

Ethical Considerations

Ethics commission approval was received from the Scientific Research Ethics Committee of Agri Ibrahim Cecen University with the decision dated 08.11.2022 and numbered 223. In addition, institutional permission was obtained for the study to be conducted at Agri Ibrahim Cecen University. After obtaining the necessary permissions, the students filled out the form consisting of an online survey and scale on a voluntary basis. The informed consent form was added to the first page of the form consisting of the online survey and scale, and participation approval was received online. The study was performed following the Declaration of Helsinki.

Statistical Analysis

Data analysis was done with SPSS 25.0 program and 95% confidence interval was used. Descriptive statistics for individuals' demographic characteristics are shown as frequencies and percentages. Descriptive statistics for numerical variables are given as mean ± standard deviation for normally distributed data, and median (min-max) values for non-normally distributed data. After calculating the scale scores, the suitability of the scores to normal distribution was examined with kurtosis and skewness coefficients. It was determined that the kurtosis and skewness coefficients of each score were between -1.5 and +1.5, and the scores were found to have a normal distribution.[9] Since the data showed normal distribution, parametric testing techniques were used. "Student's T Test" (gender and COVID-19 history) and "Anova" (ASHN score distributions) were used for normally distributed data when comparing independent groups. The relationships between the scales were examined with the "Pearson Correlation Coefficient".[9] The difference was considered statistically significant for $p<0.05$.

RESULTS AND DISCUSSION

Table 1 shows the sociodemographic characteristics distribution of the participants. 79.1% of the participants are female. It was determined that the average age of the participants was 20.97±1.59 1st grade students participated in the study with 31.2%. While 82% of the participants do not smoke, 94.1% do not drink alcohol and 69.3% do not exercise regularly. 61.6% of the participants had not had COVID-19 and 89.2% had received COVID-19 vaccine.

A significant difference was found between genders in the macro and avoidance of personal contact sub-dimensions of the scale for assessing perceptions and attitudes towards the COVID-19 pandemic ($p<0.05$). No significant difference was found between total score of ASHN and genders (Table 2).

Table 1. Distribution of Sociodemographic Characteristics of Participants (n:388)

Characteristics	n	%
Gender		
Female	307	79.1
Male	81	20.9
Age (years) (x̄ ±SD) (min-max)	20.97 ± 1.59 (18-30)	
Grade		
1. Grade	121	31.2
2. Grade	119	30.6
3. Grade	69	17.8
4. Grade	79	20.4
Cigarette		
Uses	56	14.4
Not using	318	82
I was using but I stopped	14	3.6
Alcohol		
Uses	20	5.1
Not using	365	94.1
I was using but I stopped	3	0.8
Regular Exercise		
Doing	119	30.7
Doesn't do	269	69.3
Did you diagnosed COVID-19 ?		
Yes	149	38.4
No	239	61.6
Did you have COVID-19 vaccine?		
Yes	346	89.2
No	42	10.8
ASHN score distributions		
Medium	142	36.6
High	230	59.3
Ideal	16	4.1
Total	388	100

n: Sample Number, %: Percentage, x̄: Mean, SD: Standard Deviation

Table 2. Score Distributions of Perceptions and Attitudes towards COVID-19 Pandemic Scale sub-dimensions and Attitude Scale on Healthy Nutrition by Gender (n:388)

Perceptions and Attitudes towards COVID-19 Pandemic Scale sub-dimensions	Female (n:307)	Male (n:81)	
	x̄ ± SD	x̄ ± SD	p
Danger	2.46 ± 0.51	2.58 ± 0.60	0.065
Contagiousness	3.59 ± 0.79	3.57 ± 0.99	0.829
Complo	3.19 ± 0.87	3.26 ± 0.88	0.529
Environment	3.08 ± 0.64	3.12 ± 0.69	0.621
Belief	2.83 ± 0.80	2.84 ± 0.83	0.915
Macro	2.46 ± 0.81	2.76 ± 0.87	**0.006**
Personal	2.97 ± 0.67	3.04 ± 0.68	0.414
Inevitability	3.10 ± 0.73	2.95 ± 0.70	0.117
Cognitive avoidance	3.70 ± 0.91	3.53 ± 0.78	0.133
Avoiding common areas	3.22 ± 0.93	3.22 ± 0.85	0.957
Avoiding personal contact	2.38 ± 1.07	2.84 ± 1.09	**0.001**
ASHN total score	67.89 ±8.51	67.70±8.75	0.865

x̄: Mean, SD: Standard Deviation

Perceptions and Attitudes towards COVID-19 Pandemic Scale and ASHN score distributions according to COVID-19 status are given in Table 3. A significant difference was found only in the personal sub-

dimension of the scale for evaluating perceptions and attitudes towards the COVID-19 pandemic according to COVID-19 status ($p<0.05$). ASHN total score did not show a significant difference between genders ($p>0.05$).

Table 3. Score Distributions of Perceptions and Attitudes towards COVID-19 Pandemic Scale and Attitude Scale on Healthy Nutrition according to COVID-19 status (n:388)

Perceptions and Attitudes towards COVID-19 Pandemic Scale sub-dimensions	COVID-19 (n:149)	Non-COVID-19 (n:239)	
	x̄ ± SD	x̄ ± SD	p
Danger	2.44 ± 0.54	2.51 ± 0.53	0.214
Contagiousness	3.68 ± 0.84	3.53 ± 0.83	0.097
Complo	3.21 ± 0.88	3.19 ± 0.87	0.817
Environment	3.04 ± 0.71	3.11 ± 0.60	0.294
Belief	2.78 ± 0.78	2.86 ± 0.81	0.372
Macro	2.55 ± 0.83	2.51 ± 0.83	0.662
Personal	2.90 ± 0.72	3.04 ± 0.64	**0.035**
Inevitability	3.14 ± 0.79	3.02 ± 0.67	0.111
Cognitive avoidance	3.56 ± 0.95	3.72 ± 0.84	0.103
Avoiding common areas	3.11 ± 0.96	3.29 ± 0.88	0.063
Avoiding personal contact	2.38 ± 1.14	2.53 ± 1.06	0.181
ASHN total score	68.59±8.54	67.38±8.54	0.177

x̄: Mean, SD: Standard Deviation

A positive very weak -level significant difference was found between the contagiousness (r: 0.151) and cognitive avoidance (r: 0.232) (weak-level) sub-dimensions of the scale for evaluating perceptions and attitudes towards the COVID-19 pandemic and ASHN ($p<0.05$). There was a very weak significant negative difference between the belief (r: -0.113) and avoidance of personal contact (r: -0.157) sub-dimensions and ASHN ($p<0.05$) (Table 4).

Table 4. The Relationship Between Perceptions and Attitudes towards COVID-19 Pandemic Scale and Attitude Scale on Healthy Nutrition (n:388)

Perceptions and Attitudes towards COVID-19 Pandemic Scale sub-dimensions	ASHN Total Score	
	r	p
Danger	0.020	0.693
Contagiousness	0.151	**0.003**
Complo	-0.039	0.447
Environment	-0.031	0.536
Belief	-0.113	**0.025**
Macro	0.007	0.892
Personal	0.076	0.134*
Inevitability	0.009	0.867
Cognitive avoidance	0.232	**0.000**
Avoiding common areas	-0.073	0.152
Avoiding personal contact	-0.157	**0.002**

Table 5 shows the comparison of the sub-dimensions of the scale for perceptions and attitudes towards COVID-19 pandemic according to the ASHN. Cognitive avoidance and avoiding personal contact sub-dimensions were found to have significant differences among ASHN categories.

The COVID-19 pandemic has brought about profound changes in people's lifestyles.[10] Particularly vulnerable groups such as young people have been affected by measures such as isolation, quarantine, and physical distancing, which have negatively impacted their physical and mental health.[11] Therefore, it is important to assess perceptions and attitudes towards COVID-19 to mitigate its effects on disadvantaged groups. In some studies female report greater

Table 5. Comparison of sub-dimensions of the Scale for the Perceptions and Attitudes towards the Coronavirus Pandemic according to the Attitude Scale on Healthy Nutrition (n:388)

Perceptions and Attitudes towards COVID-19 Pandemic Scale sub-dimensions	ASHN Groups	N	x̄	SD		SS	df	MS	F	p	Post-hoc (Tukey)
	Medium	142	2.46	0.52	Between groups	0.57	2	0.286	1.005	0.367	
Danger	High	230	2.49	0.54	Within groups	109.47	385	0.284			
	Ideal	16	2.66	0.58	Total	110.04	387				
	Medium	142	3.49	0.86	Between groups	2.848	2	1.424	2.047	0.130	
Contagiousness	High	230	3.63	0.82	Within groups	267.78	385	0.696			
	Ideal	16	3.83	0.83	Total	270.63	387				
	Medium	142	3.22	0.85	Between groups	4.226	2	2.113	2.778	0.063	
Complo	High	230	3.23	0.90	Within groups	291.74	385	0.758			
	Ideal	16	2.70	0.54	Total	295.97	387				
	Medium	142	3.15	0.63	Between groups	1.64	2	0.821	1.978	0.140	
Environment	High	230	3.04	0.66	Within groups	159.82	385	0.415			
	Ideal	16	3.27	0.43	Total	161.46	387				
	Medium	142	2.94	0.86	Between groups	3.00	2	1.502	2.357	0.096	
Belief	High	230	2.76	0.76	Within groups	245.33	385	0.637			
	Ideal	16	2.89	0.70	Total	248.33	387				
	Medium	142	2.56	0.83	Between groups	1.43	2	0.716	1.035	0.356	
Macro	High	230	2.48	0.83	Within groups	266.26	385	0.692			
	Ideal	16	2.75	0.92	Total	267.69	387				
	Medium	142	2.95	0.64	Between groups	0.97	2	0.484	1.070	0.344	
Personal	High	230	3.00	0.69	Within groups	174.17	385	0.452			
	Ideal	16	3.20	0.74	Total	175.14	387				
	Medium	142	3.06	0.71	Between groups	0.76	2	0.380	0.729	0.483	
Inevitability	High	230	3.08	0.74	Within groups	200.94	385	0.522			
	Ideal	16	2.86	0.52	Total	201.70	387				
	Medium	142	3.47	0.88	Between groups	10.29	2	5.145	6.769	**0.001**	M-H*
Cognitive avoidance	High	230	3.74	0.87	Within groups	292.61	385	0.760			M-I*
	Ideal	16	4.15	0.82	Total	302.90	387				
	Medium	142	3.28	0.86	Between groups	3.79	2	1.897	2.269	0.105	
Avoiding common areas	High	230	3.22	0.95	Within groups	321.82	385	0.836			
	Ideal	16	2.76	0.95	Total	325.61	387				
	Medium	142	2.69	1.05	Between groups	18.82	2	9.409	8.201	**0.000**	M-H*
Avoiding personal contact	High	230	2.40	1.10	Within groups	441.70	385	1.147			M-I*
	Ideal	16	1.67	0.85	Total	460.52	387				H-I*

* $p<0.05$, M:Medium, H:High, I:Ideal

fear and more negative expectations about the health consequences of COVID-19 compared to male.[11-13]

In a study of 300 university students in Spain, it was found that female exhibited a higher perception of danger than male.[11] In a cross-sectional study of 358 students from 14 universities in Turkey, it was determined that female and physically inactive students had a higher perception of stress.[6] Studies with university students in Switzerland and China have also shown that male have slightly lower anxiety scores than female.[14,15] In study conducted on nursing students in Turkey, it was found that female had a higher perception of stress.[16] In another study conducted with 754 university students in Turkey, it was found that the average scores of female's Perceptions and Attitudes towards COVID-19 Pandemic Scale contagiousness and avoiding personal contact sub- dimensions were higher.[17]

In this study, significant differences were found between the macro, avoiding personal contact and personal sub-dimensions of the COVID-19 perceptions and attitudes scale and gender and COVID-19 disease status. Contrary to the existing data, male and those who did not have COVID-19 disease were found to have higher COVID-19 perceptions and attitudes. Cultural norms and societal expectations may influence how individuals perceive and respond to health-related issues. Male, for example, might feel a stronger sense of responsibility to protect themselves and others during a pandemic, leading to higher perceptions and attitudes towards COVID-19.

The COVID-19 pandemic has changed individuals' perceptions of healthy nutrition.[18] In addition to the direct physiological effects of chronic stress, its psychological consequences can also cause a change in the perception of healthy nutrition.[19] When gender is taken into account, it has been shown that male may trust their intuition about nutrition more than female.[20] Especially during the COVID-19 pandemic, female are reported to have a lower perception of healthy eating.[21] A study conducted in the USA showed that students who reported lower diet quality during the COVID-19 period also reported poorer mental health and more stress.[22] In another study of 513 university students in Colombia, it was reported that students who consumed a pro-inflammatory diet had higher COVID-19 risk perception than the group who did not consume a pro-inflammatory diet.[23] In a study conducted on adults, stress scores were found to be higher in participants who reported unhealthy eating and worsening of their diet.[24] In another study investigating the effects of COVID-19 on healthy nutrition attitudes, female's ASHN scores were found to be significantly higher than male.[25] In a study examining the healthy eating attitude scores of university students during the COVID-19 period, although no difference was found between genders, it was found that the ASHN scores of those who engaged in regular exercise were significantly higher than those who did not.[26]

In this study, no significant difference was found between gender and having COVID-19 disease and healthy eating attitudes. Weak but significant associations were found between the four sub-dimensions of the COVID-19 perceptions and attitudes assessment scale (contagiousness, belief, cognitive avoidance and avoidance of personal contact) and ASHN. The lack of significant differences between genders in our study regarding COVID-19 disease and healthy eating attitudes could be attributed to several factors. One possibility is that in our sample, both males and females may have been equally exposed to information and messaging about COVID-19 and healthy nutrition, leading to similar perceptions and attitudes across genders. Additionally, cultural and societal norms regarding health behaviors may have influenced participants' responses, diminishing the impact of gender on these attitudes.

Moreover, individual differences within each gender group, such as personal experiences, beliefs, and lifestyle factors, could have played a role in shaping

perceptions of COVID-19 and healthy eating. It's also possible that the measures used to assess healthy eating attitudes may not have captured nuanced differences between genders effectively. Furthermore, the evolving nature of the pandemic and the varied responses of different populations to COVID-19-related information and guidelines may have contributed to the lack of significant gender differences in our findings. Future studies could delve deeper into these factors to better understand the complex relationship between gender, COVID-19 perceptions, and healthy eating attitudes.

CONCLUSION AND RECOMMENDATIONS

In line with the data obtained from the study; it was determined that having COVID-19 disease and gender affected COVID-19 perceptions and attitudes. In addition, weak but significant relationships were found between healthy eating attitudes and COVID-19 perceptions and attitudes. It is thought that students' attitudes towards healthy nutrition may change their perceptions and attitudes towards COVID-19. Encouraging educational programs focused on healthy eating habits could potentially influence individuals' perceptions and attitudes towards COVID-19, fostering a more proactive approach to disease prevention. Implementing interventions aimed at promoting healthier dietary choices among students may serve as a complementary strategy in shaping their attitudes and responses towards the COVID-19 pandemic. Integrating nutritional education into broader public health initiatives may offer a holistic approach to addressing the multifaceted challenges posed by the COVID-19 pandemic, fostering resilience and promoting well-being across diverse populations. Future study should delve into how healthy eating attitudes relate to perceptions and attitudes toward COVID-19, clarifying the role of dietary factors in shaping public health behaviors.

Limitations of the study

The fact that the study was conducted during the period when the pandemic was more comfortable and the number of cases started to decrease is a limitation. In addition, since the study was single-center, it is limited in reflecting the situation across the country.

REFERENCES

1. Bennett, G, Young, E, Butler, I. and Coe, S. (2021). "The impact of lockdown during the COVID-19 outbreak on dietary habits in various population groups: a scoping review". Frontiers in nutrition, 8, 626432. https://doi.org/10.3389/fnut.2021.626432

2. Wise, T, Zbozinek, T.D, Michelini, G, Hagan, C.C. and Mobbs, D. (2020). "Changes in risk perception and self-reported protective behaviour during the first week of the COVID-19 pandemic in the United States". Royal Society open science, 7 (9), 200742. https://doi.org/10.1098/rsos.200742

3. Freitas, F.D.F, de Medeiros, A.C.Q. and Lopes, F.D.A. (2021). "Effects of social distancing during the COVID-19 pandemic on anxiety and eating behavior—a longitudinal study". Frontiers in Psychology, 12, 645754. https://doi.org/10.3389/fpsyg.2021.645754

4. Ortenburger, D, Mosler, D, Pavlova, I. and Wąsik, J. (2021). "Social support and dietary habits as anxiety level predictors of students during the COVID-19 pandemic". International Journal of Environmental Research and Public Health, 18 (16), 8785. https://doi.org/10.3390/ijerph18168785

5. Sadler, J.R, Thapaliya, G, Jansen, E, Aghababian, A.H, Smith, K.R. and Carnell, S. (2021). "COVID-19 stress and food intake: protective and risk factors for stress-related palatable food intake in US adults". Nutrients, 13 (3), 901. https://doi.org/10.3390/nu13030901

6. Aslan, I, Ochnik, D. and Çınar, O. (2020). "Exploring perceived stress among students in Turkey during the COVID-19 pandemic". International journal of environmental research and public health, 17 (23), 8961. https://doi.org/10.3390/ijerph17238961

7. Demir, G.T. ve Cicioğlu, H.İ. (2019). "Sağlıklı beslenmeye ilişkin tutum ölçeği (SBİTÖ): Geçerlik ve güvenirlik çalışması". Gaziantep Üniversitesi Spor Bilimleri Dergisi, 4 (2), 256-274. https://doi.org/10.31680/gaunjss.559462

8. Artan, T, Karaman, M, Arslan, I. and Cebeci, F. (2020). "Evaluation of the scale for assessing perceptions and attitudes towards the COVID-19 pandemic". Social Work Journal, 4 (2), 33-39.

9. Tabachnick, B.G, Fidell, L.S. and Ullman, J.B. (2013). "Using multivariate statistics (Vol. 6, pp. 497-516)". Boston, MA: pearson.

10. Di Renzo, L, Gualtieri, P, Pivari, F, Soldati, L, Attinà, A, Cinelli, G. and De Lorenzo, A. (2020). "Eating habits and lifestyle changes during COVID-19 lockdown: an Italian survey". Journal of translational medicine, 18 (1), 1-15. https://doi.org/10.1186/s12967-020-02399-5

11. Rodriguez-Besteiro, S, Tornero-Aguilera, J.F, Fernández-Lucas, J. and Clemente-Suárez, V.J. (2021). "Gender differences in the COVID-19 pandemic risk perception, psychology, and behaviors of Spanish university students". International Journal of Environmental Research and Public Health, 18 (8), 3908. https://doi.org/10.3390/ijerph18083908

12. Alsharawy, A., Spoon, R., Smith, A., and Ball, S. (2021). Gender differences in fear and risk perception during the COVID-19 pandemic. Frontiers in psychology, 12, 689467. https://doi.org/10.3389/fpsyg.2021.689467

13. Lewis, A. and Duch, R. (2021). "Gender differences in perceived risk of COVID-19". Social Science Quarterly, 102 (5), 2124-2133. https://doi.org/10.1111/ssqu.13079

14. Dratva, J, Zysset, A, Schlatter, N, von Wyl, A, Huber, M. and Volken, T. (2020). "Swiss university students' risk perception and general anxiety during the COVID-19 pandemic". International journal of environmental research and public health, 17 (20), 7433. https://doi.org/10.3390/ijerph17207433

15. Ding, Y, Du, X, Li, Q, Zhang, M, Zhang, Q, Tan, X. and Liu, Q. (2020). "Risk perception of coronavirus disease 2019 (COVID-19) and its related factors among college students in China during quarantine". PloS one, 15 (8), e0237626. https://doi.org/10.1371/journal.pone.0237626

16. Aslan, H. and Pekince, H. (2021). "Nursing students' views on the COVID-19 pandemic and their percieved stress levels". Perspectives in psychiatric care, 57 (2), 695-701. https://doi.org/10.1111/ppc.12597

17. Yazıcıoğlu, S.A, Taşkın, D. ve Çarıkçı, F. (2022). "Üniversite Öğrencilerinin COVID-19 Pandemisine Yönelik Algı ve Tutumlarının Değerlendirilmesi". Türkiye Sağlık Araştırmaları Dergisi, 3 (3), 10-21.

18. Savarese, M, Castellini, G, Morelli, L. and Graffigna, G. (2021). "COVID-19 disease and nutritional choices: How will the pandemic reconfigure our food psychology and habits? A case study of the Italian population". Nutrition, Metabolism and Cardiovascular Diseases, 31 (2), 399-402. https://doi.org/10.1016/j.numecd.2020.10.013

19. Bays, J.C. (2017). "Mindful Eating: A Guide to Rediscovering a Healthy and Joyful Relationship with Food (Revised Edition)". Shambhala Publications.

20. Camilleri, G.M, Méjean, C, Bellisle, F, Hercberg, S. and Péneau, S. (2015). "Association between mindfulness and weight status in a general population from the NutriNet-Santé study". PloS one, 10 (6), e0127447. https://doi.org/10.1371/journal.pone.0127447

21. Rodrigues, J.F, dos Santos Filho, M.T.C, de Oliveira, L.E.A, Siman, I.B, de Fátima Barcelos, A, Ramos, G.L.D.P.A. and Arriel, R.A. (2021). "Effect of the COVID-19 pandemic on food habits and perceptions: A study with Brazilians". Trends in Food Science and Technology, 116, 992-1001. https://doi.org/10.1016/j.tifs.2021.09.005

22. LaCaille, L.J, Hooker, S.A, Marshall, E, LaCaille, R.A. and Owens, R. (2021). "Change in perceived stress and health behaviors of emerging adults in the midst of the COVID-19 pandemic". Annals of Behavioral Medicine, 55 (11), 1080-1088. https://doi.org/10.1093/abm/kaab074

23. Rodriguez-Besteiro, S, Valencia-Zapata, G, Beltrán de la Rosa, E. and Clemente-Suárez, V.J. (2022). "Food consumption and COVID-19 risk perception of university students". Sustainability, 14 (3), 1625. https://doi.org/10.3390/su14031625

24. Khubchandani, J, Kandiah, J. and Saiki, D. (2020). "The COVID-19 pandemic, stress, and eating practices in the United States". European Journal of Investigation in Health, Psychology and Education, 10 (4), 950-956. https://doi.org/10.3390/ejihpe10040067

25. Özenoğlu, A, Çevik, E, Çolak, H, Altıntaş, T. and Alakuş, K. (2021). "Changes in nutrition and lifestyle habits during the COVID-19 pandemic in Turkey and the effects of healthy eating attitudes". Mediterranean Journal of Nutrition and Metabolism, 14 (3), 325-341. https://doi.org/10.3233/MNM-210562

26. Yılmaz, G, Şengür, E. ve Turasan, İ. (2022). "Covid 19 döneminde üniversite öğrencilerinin sağlıklı beslenme tutum puanlarının incelenmesi". Ulusal Spor Bilimleri Dergisi, 6 (1), 1-10. https://doi.org/10.30769/usbd.1078434

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Evaluation of the Anticarcinogenic Effect of White Radish Extract (*Raphanus sativus var. Longipinnatus)* on *In Vitro* Ehrlich Ascites Tumor Cells

Beyaz Turp Ekstraktının (*Raphanus sativus var. Longipinnatus*) *In Vitro* Ehrlich Asit Tümör Hücreleri Üzerinde Antikanserojenik Etkisinin Değerlendirilmesi

Sümeyye UÇAR[1], Aslı OKAN OFLAMAZ[2], Mert OCAK[3]

ABSTRACT

In this research, it was aimed to research the time and different dose effects of white radish extract (*Raphanus sativus var. Longipinnatus*) on Ehrlich Ascites Tumor (EAT) cell lines. EAT cell line was used in the study. EAT cells were treated white radish extract (*Raphanus sativus var. Longipinnatus*) at 37°C and 5% CO_2 for differing periods (24 and 48 hours) and doses (100-200 and 300 µg/ml white radish extract). At the end of the incubation duration, Argyrophilic nucleolar organizing region (AgNOR) protein condition of EAT cells were investigated.It was determined among the control and 300 µg/ml Raphanus sativus extract group the significant differences for mean AgNOR number and TAA/NA (Total AgNOR area/Total nuclear area) in 48 hours period. It was detected also between the 100 and 300 µg/ml Raphanus sativus extract groups for AgNOR number and TAA/NA in 48 hours incubation ($p<0,05$). This study demonstrated that Raphanus sativus had a important role against cancer cells. Also, both AgNOR values mit be used as biomarkers for identification of the most true therapeutic dose option for cancer and it has been shown that suitable ingestion of Raphanus sativus can be effective in avoid cancer development and slowing its spreading.

Keywords: AgNOR, Cancer cell line, EAT, *Raphanus sativus L.*

ÖZ

Bu çalışmada beyaz turp (*Raphanus sativus var. Longipinnatus*) ekstresinin Ehrlich Asit Tümör (EAT) hücre hattı üzerinde zaman ve doza bağlı etkilerinin incelenmesi amaçlanmıştır. Çalışmada EAT hücre hattı kullanıldı. EAT hücreleri, değişen sürelerde (24 ve 48 saat) ve dozlarda (100-200 ve 300 µg/ml beyaz turp ekstresi) 37°C ve %5 CO^2'de beyaz turp ekstresine (*Raphanus sativus var. Longipinnatus*) maruz bırakıldı. İnkübasyon süresinin sonunda EAT hücrelerinin argyrophilic nükleolar organize bölge (AgNOR) protein durumu incelendi. 48 saatlik inkübasyonda ortalama AgNOR sayısı ve TAA/NA (Total AgNOR alanı/Total çekirdek alanı) açısından kontrol ve 300 µg/ml *Raphanus sativus* ekstresi grubu arasında anlamlı fark bulundu. Ayrıca 48 saatlik inkübasyonda AgNOR sayısı ve TAA/NA için 100 ve 300 µg/ml *Raphanus sativus* ekstre gruplarında istatistiksel olarak fark görüldü ($p<0,05$). Mevcut çalışmamızda, *Raphanus sativus*'un kanser gelişimine karşı çok önemli bir işlevi olduğunu göstermiştir. Ayrıca, AgNOR kanser için en güvenilir terapötik doz seçiminin saptanmasında biyobelirteç olarak kullanılmaktadır. *Raphanus sativus*'un doğru tüketiminin kanser oluşumunu önlemede ve ilerlemesini yavaşlatmada etkili olabileceği gösterilmiştir.

Anahtar kelimeler: AgNOR, Kanser hücre hattı, EAT, *Raphanus sativus L.*

[1]Arş. Gör. Dr, Sümeyye UÇAR, Anatomi, Erciyes Üniversitesi ,Tıp Fakültesi, Anatomi AD, sumeyyeucar@erciyes.edu.tr, https://orcid.org/0000-0003-3378-3745
[2]Dr. Öğr. Üyesi, Aslı OKAN OFLAMAZ, Histoloji ve Embriyoloji, Yozgat Bozok Üniversitesi, Tıp Fakültesi, Histoloji ve Embriyoloji AD, asli.okan@bozok.edu.tr ,https://orcid.org/0000-0001-8152-7338
[3]Dr. Öğr. Üyesi, Mert OCAK, Anatomi, Ankara Üniversitesi, Diş Hekimliği Fakültesi, Anatomi AD, mert.ocak@ankara.edu.tr, https://orcid.org/0000-0001-6832-6208
İletişim / Corresponding Author: Sümeyye UÇAR
e-posta/e-mail: sumeyyeucar@erciyes.edu.tr
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INTRODUCTION

Surgery, chemotherapy, radiotherapy and hormone therapys are mainly utilized the cure of cancer, which is one of the most important threats to human health. Due to some of the side effects of these treatments and the long duration of the treatments, sometimes patients are they can enter into quests. Sometimes, the practice and use of alternative treatments has traditional value and history. The Chinese herb has been used medicinally for therapeutic purposes since 770 BC.[1]

Proliferation of cancer cells can be assessed by argyrophilic nucleolar organized region staining (AgNORs). (NOR) regions can be stained with silver (Ag) and therefore these regions, called AgNOR, are used to evaluate the increase in cancer cells.[2] AgNOR staining, which stands for silver-staining nucleolar organizer regions, is a technique used to detect and quantify the number and size of nucleoli in a cell. Nucleoli are regions within the nucleus of a cell where ribosomal RNA synthesis and assembly occur. AgNOR staining can provide information about cell proliferation and can be particularly useful in cancer research.[3]

In cell culture, AgNOR staining can be performed on cultured cells to examine their nucleolar characteristics. The procedure involves treating the cells with a silver solution that specifically stains the nucleolar proteins associated with ribosomal RNA synthesis. This staining results in the appearance of dark, discrete dots or patches within the nucleoli.[4] Not eating enough fruits and vegetables in general has been connect an increased danger of stomach cancer for years., worldwide association focusing on epidemiological research of gastric cancer, reports that people who consume a lot of fruit have a much lower risk of developing gastric cancer.[5-7]

The consumption of leaves and radish sprouts along with the root of the White Radish (Raphanus sativus L.), which is one of the most eated vegetables of the Brassicaeae family, is increasing. While radishes typically have a peppery flavor, white radishes tend to be milder and slightly sweet. White radishes are most commonly found in Asian cuisines, particularly in Japanese, Chinese, and Korean dishes. From a nutritional standpoint, white radishes are low in calories and high in dietary fiber. They contain vitamin C, potassium, folate, flavonoids and other beneficial compounds. Like other radishes, they are known for their potential digestive and detoxifying properties, although scientific evidence in these areas is limited. Sulfur and nitrogen-containing glycosides are organic compounds derived from glucose and amino acid. In previous studies on glucosinolates, which have benefits for human health, it has been reported that dietary consumption of these substances has positive effects against the danger of carcinogenesis, antioxidant, antitumor and oxidative stress in the cardiovascular system.[8-13]

The aim of this study is to evaluate the antitumoral effect of Raphanus Sativus L. on EAT cells in vitro by the AgNOR method.

MATERIAL AND METHODS

After EAT cells were removed from -80, they were thawed and washed with medium. Cell culture application was performed as in the previous study by Ateş et al. [14]

As a result of the experiment for AgNOR staining, EAT cells cultured with 100,200 and 300 µg/ml Raphanus Sativus L. extract were spread on a slide and dried at room temperature for approximately 30 minutes. The silver staining solution obtained from 50% $AgNO_3$ and gelatinous formic acidmixture was dripped 3-4 drops on the preparations with a staining pipette and covered with a coverslip. Then the lid of the petri dish was quickly closed, wrapped with aluminum foil in such a way that it would not get any light,and left in an oven at 37ºC for 15 minutes. At the end of the15th minute, the preparations that were removed from the oven were washed with distilled water until the coverslips fell off. Photographs of the preparations covered with Entellan were taken

under a light microscope (Leica DM3000) at a magnification of 100 (Imaging Color 12 BIT,Made in Canada).

Analyzes were performed in the ImageJ program (ImageJ version 1.47t, National Institutesof Health, Bethesda, Maryland, USA). By evaluating cell nuclei, both the total AgNOR area (TAA/NA) and theaverage AgNOR number per nuclear area were calculated using the "freehand selections" tools. Ethics committee permission is not required for this study.

Statistical analyses

Graphpad Prism version 9.0 program (for Mac, GraphPad Software, La Jolla, California, USA) was used for all statistical analysis. With the Shapiro-Wilk test, it was observed that the data belonging to the groups were normally distributed. Since there is a normal distribution in the data, one-way ANOVA test in multiple comparisons between groups; Post-hoc Tukey test was used for paired group comparison. Statistically, a value of $p < 0.05$ was considered significant.

Ethics Committee approval

The article does not require ethics committee permission.

Funding sources

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Conflict of Interest

The authors declare no conflict of interest to disclose

RESULTS AND DISCUSSION

24 hours incubation, mean AgNOR number value was statistically significant ($p < 0.05$) in 300 µg/ml Raphanus Sativus L. extract groups compared to the control and other extract groups (Fig. 1).

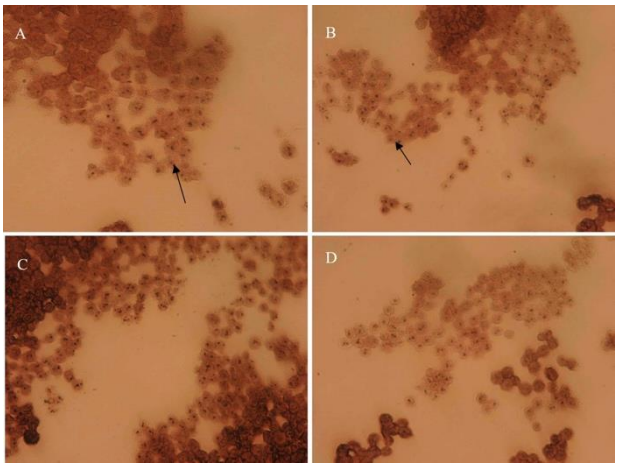

Fig.1 AgNOR Staining Images After 24 Hours A) Control group B)100 µg/ml *Raphanus Sativus L.* extract group C) 200 µg/ml *Raphanus Sativus L.* extract group D) 300 µg/ml *Raphanus Sativus L.* extract group.

The mean 48 hours incubation AgNOR number was significantly in the 300 µg/ml *Raphanus Sativus L. extract* groups compared to the control group ($p < 0.05$). Additionally 100 and 300 µg/ml *Raphanus Sativus L. extract* groups statistically significant (Fig. 2 and Table 1)

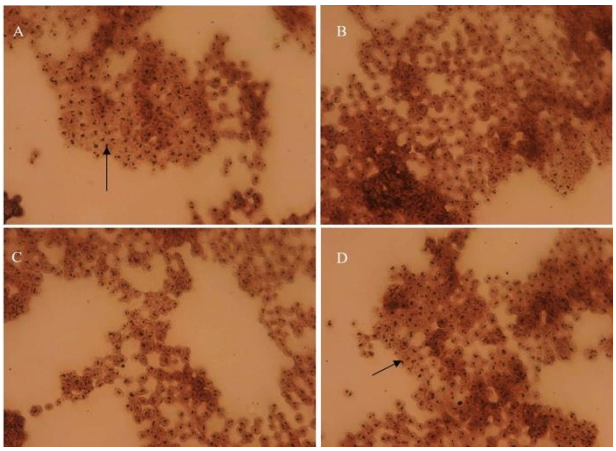

Fig.2 AgNOR Staining Images After 48 Hours A) Control group B)100 µg/ml *Raphanus Sativus L.* extract group C) 200 µg/ml *Raphanus Sativus L.* extract group D) 300 µg/ml *Raphanus Sativus L.* extract group.

After 24 hours incubation, TAA/NA ratio was statistically significant between control and 300 µg/ml *Raphanus Sativus L.* extract group. Additionally 100 -300 µg/ml and 200-300 µg/ml *Raphanus Sativus L.* extract groups statistically significant (($p < 0.05$).

At the end of 48 hours incubation, the TAA/NA ratio was statistically significant ($p < 0.05$) in 300 µg/ml *Raphanus Sativus L.* extract groups compared to the control group and between 100 -300 µg/ml extract groups (Fig. 3 and Table 2).

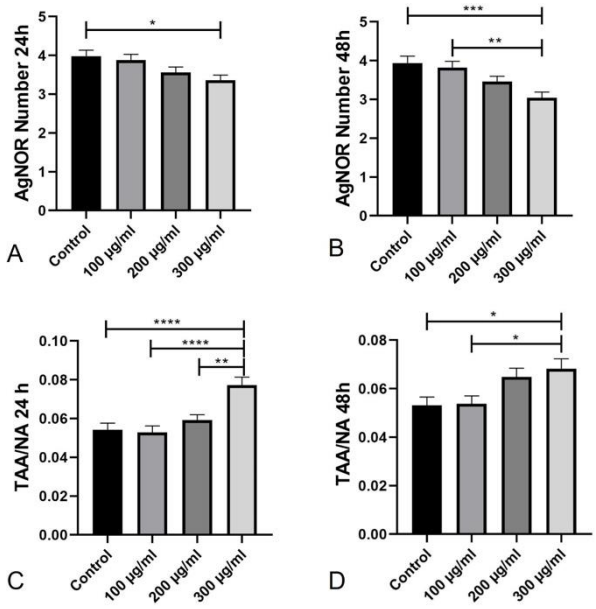

Fig. 3 Comparison of AgNOR Number (A And B) and TAA/NA Ratio (C And D) Between Groups After 24 And 48 Hours of Incubation. * statistically significant

Table1. Mean Agnor Number After 24 and 48 Hours of Incubation

H/G	Control	100 µg/ml	200 µg/ml	300 µg/ml	*p*
24 H	3,98±1,09[a]	3,88±1,04[a]	3,56±1,01[a]	3,36±0,94[b]	<0.001
48 H	3,94±1,23[a]	3,82±1,14[a]	3,46±0,97[ab]	3,04±1,07[b]	<0.001

p <0.05 was considered statistically significant. Data are expressed as mean ± SD (Standard deviation). There is no statistically significant difference between the groups containing the same letter (p> 0.05). 100, 200 and 300 µg / ml: ml *Raphanus Sativus L. extract* groups. **AgNOR:** Argyrophilic nucleolar organizer region.**H**: hour, **G**:group

Table2. TAA / NA Value at The End of 24 and 48 Hours of Incubation.

H/G	Control	100 µg/ml	200 µg/ml	300 µg/ml	*p*
24 H	0,05±0,02[a]	0,05±0,02[a]	0,05±0,02[a]	0,07±0,02[b]	<0.001
48 H	0,05±0,02[a]	0,05±0,02[a]	0,06±0,03[a]	0,06±0,03[b]	<0.001

p <0.05 was considered statistically significant. Data are expressed as mean ± SD (Standard deviation). There is no statistically significant difference between the groups containing the same letter (p> 0.05).; 100, 200 and 300 µg / ml: ml *Raphanus Sativus L. extract*. **TAA/NA:** Total AgNOR area (TAA)/Total nuclear area (NA) ratio.**H**:Hour, **G**:group

For assesment the clinical course and aggressiveness of tumors use AgNORs to cellular proliferation markers. This method was applied to various materials such as paraffin-embedded human pathological tissues. AgNOR staining is a representative method for the detection of NORs in tissue sections and provides convenience estimation of tumor activity.[15]

Jajoda et al. to measure the role of brush cytology in the screening of oral lesions with malignant suspicion and compare it with histopathology in north-eastern India used AgNOR staining method.[16] Furusawa et al.,studied to AgNOR staining method in the cytology of smears in dogs and cats.[17]

Srivastava et al. with the tumor marker potential of AgNOR pleomorphism counts had

assessed correlation HPV positivity.[18] Ferreira et al. evaluated the cytopathological changes in the epithelial cells of the oral mucosa of patients with oral lichen planus (OLP) by comparing them with patients without OLP using AgNOR staining methods.[19]

Jinza et al. performed AgNORs applied to cell imprint preparations in bladder cancer and stated that AgNORs of cell imprint preparations is an objective method in human bladder cancer.[20]

Rao et al. determined the diagnostic accuracy of rapid AgNOR in brush biopsies of potentially malignant lesions for early sensing of oral cancer.[21]Elangovan et al. evaluated the importance of various AgNOR parameters and their role in differentiating hyperplastic, premalignant and malignant oral lesions.[22]Tomazelli et al. in oral squamous cell carcinoma (OSCC) investigated the proliferative activity, using AgNORs quantification proteins, in low- and high-risk oral epithelial dysplasia, OSCC, and nondysplastic epithelium (inflammatory fibrous hyperplasia).[23] Studies have shown that Raphanus sativus extract reduces the viability of the breast cancer cell line MDA-MB-231 cells in the dose range of different concentrations (100, 200, or 300 µg/mL) and especilly in 200 and 300 µg/mL notably reduced cell proliferation after 48 hours incubation.[24]

Yılmaz et al. studied the effectiveness of curcumin (10 µg/ml, 20 µg/ml and 30 µg/ml) on EAT cells in 3 and 24 hour incubation periods. As a result, they found a significant difference at the dose of 10 µg/ml.[25]

Yılmaz et al. examined the effects of rutin, a flavonoid found in fruits and vegetables, on mice in which solid tumors were formed with EAT cells, using the AgNOR staining method and found a significant decrease in the rutin groups compared to the control group.[26]

In this study, the effects of radish extract on the proliferation of EAT cells were investigated and it was observed that it prevented proliferation especially at 300 µg/ml doses. There was also a decrease in the number of AgNORs with increasing dose.

AgNOR values can be used as biomarkers in determining the most reliable therapeutic dose selection for cancer and it has been shown that the correct consumption of Raphanus sativus can be effective in preventing cancer formation and slowing its progression.

In this study, it was seen that Raphanus sativus has a very important function against the development of cancer.

CONCLUSION AND RECOMMENDATION

Research has shown that regular nutrition with antioxidant nutrients prevents the formation and progression of cancer. In conclusion, we believe that adding radish with protective content against cancer to diets will be beneficial for human health. More studies are needed to further elucidate the mechanisms of radish's effect on cancer cells.

REFERENCES

1. Yavuz, M, İlçe, A, Kaymakçı, Ş, Bildik, G. ve Dıramalı, A. (2007). "Meme kanserli hastaların tamamlayıcı ve alternatif tedavi yöntemlerini kullanma durumlarının incelenmesi". Turkiye Klinikleri J Med Sci, 27:680-686.

2. Lorenzato, M, Abboud, P, Lechki, C, Browarnyj, F, O'Donohue, M. F, Ploton, D. and Adnet, J. J. (2000). "Proliferation assessment in breast cancer: a double-staining technique for AgNOR quantification in MIB-1 positive cells especially adapted for image cytometry". Micron (Oxford, England), 31(2), 151–159. https://doi.org/10.1016/s0968-4328(99)00072-4

3. Rüschoff, J, Plate, K, Bittinger, A. and Thomas, C. (1989). "Nucleolar organizer regions (NORs). Basic concepts and practical application in tumor pathology". Pathology, research and practice, 185(6), 878–885. https://doi.org/10.1016/S0344-0338(89)80290-0

4. Rüschoff J. (1992). "Nukleolus Organisierende Regionen (NORs) in der Pathomorphologischen Tumordiagnostik [Nucleolus organizer regions in pathomorphologic tumor diagnosis]". Veroffentlichungen aus der Pathologie, 139, 1–144.

5. Lewandowska, A. M, Lewandowski, T, Rudzki, M, Rudzki, S. and Laskowska, B. (2021). "Cancer prevention - review paper". Annals of agricultural and environmental medicine : AAEM, 28(1), 11–19. https://doi.org/10.26444/aaem/116906

6. Ferro, A, Rosato, V, Rota, M, Costa, A. R, Morais, S, Pelucchi, C, Johnson, K. C, Hu, J, Palli, D, Ferraroni, M, Zhang, Z. F, Bonzi, R, Yu, G. P, Peleteiro, B, López-Carrillo, L, Tsugane, S, Hamada, G. S, Hidaka, A, Zaridze, D, Maximovitch, D. and Lunet, N. (2020). "Meat intake and risk of gastric cancer in the Stomach cancer Pooling (StoP) project". International journal of cancer, 147(1), 45–55. https://doi.org/10.1002/ijc.32707

7 Maddineni, G, Xie, J. J, Brahmbhatt, B. and Mutha, P. (2022). "Diet and carcinogenesis of gastric cancer". Current opinion in gastroenterology, 38(6), 588–591. https://doi.org/10.1097/MOG.0000000000000875

8 Gamba, M, Asllanaj, E, Raguindin, P. F, Glisic, M, Franco, O, Minder, B, Bussler, W, Metzger, B, Kern, H. and Muka, T. (2021). "Nutritional and phytochemical characterization of radish (Raphanus sativus): A systematic review". Trends in Food Science & Technology, 113. https://doi.org/10.1016/j.tifs.2021.04.045

9. Manivannan, A, Kim, J. H, Kim, D. S, Lee, E. S. and Lee, H. E. (2019). "Deciphering the Nutraceutical Potential of Raphanus sativus-A Comprehensive Overview". Nutrients, 11(2), 402. https://doi.org/10.3390/nu11020402

10. Baenas, N, García-Viguera, C. and Moreno, D. A. (2014). "Biotic elicitors effectively increase the glucosinolates content in Brassicaceae sprouts". Journal of agricultural and food chemistry, 62(8), 1881–1889. https://doi.org/10.1021/jf404876z

11. Yi, G, Lim, S, Chae, W. B, Park, J. E, Park, H. R, Lee, E. J. and Huh, J. H. (2016). "Root Glucosinolate Profiles for Screening of Radish (Raphanus sativus L.) Genetic Resources". Journal of agricultural and food chemistry, 64(1), 61–70. https://doi.org/10.1021/acs.jafc.5b04575

12. Miękus, N, Marszałek, K, Podlacha, M, Iqbal, A, Puchalski, C. and Świergiel, A. H. (2020). "Health Benefits of Plant-Derived Sulfur Compounds, Glucosinolates, and Organosulfur Compounds". Molecules (Basel, Switzerland), 25(17), 3804. https://doi.org/10.3390/molecules25173804

13. Gutiérrez, R. M. and Perez, R. L. (2004). "Raphanus sativus (Radish): their chemistry and biology". TheScientificWorldJournal, 4, 811–837. https://doi.org/10.1100/tsw.2004.131

14.Ateş,Ş,Ülger,H,Yilmaz,S,Karatoprak,G,Al,Ö,Uçar,S,Taştan,M, Tokpinar,A,Alpa,Ş. and Farooqi,A.(2022)."Evaluation of antitumoral effect of mistletoe fruit extract on Ehrlich ascites tumor cells with muse cell analyzer and argyrophilic nucleolar organizer region staining method". Postępy Higieny i Medycyny Doświadczalnej,76(1) 209-219. https://doi.org/10.2478/ahem-2022-0014

15. Ploton, D, Menager, M, Jeannesson, P, Himber, G, Pigeon, F. and Adnet, J. J. (1986). "Improvement in the staining and in the visualization of the argyrophilic proteins of the nucleolar organizer region at the optical level". The Histochemical journal, 18(1), 5–14. https://doi.org/10.1007/BF01676192

16. Jajodia, E, Raphael, V, Shunyu, N. B, Ralte, S, Pala, S. and Jitani, A. K. (2017). "Brush Cytology and AgNOR in the Diagnosis of Oral Squamous Cell Carcinoma". Acta cytologica, 61(1), 62–70. https://doi.org/10.1159/000451050

17 Furusawa, Y, Takahashi, M, Shima-Sawa, M, Yamato, O. and Yabuki, A. (2020). "Argyrophilic nucleolar organizer regions staining for cytology smears in dogs and cats". The Journal of veterinary medical science, 82(9), 1267–1270. https://doi.org/10.1292/jvms.20-0271

18. Srivastava, A. N, Misra, J. S, Singh, U, Khan, M. and Raza, S. (2019). "AgNOR Pleomorphic Count as a Tumor Marker in Cervical Carcinogenesis and Feasibility of Its Introduction in Cervical Cancer Screening Programs to Discriminate High-Risk Cases of Squamous Intraepithelial Lesions of the Cervix". Acta cytologica, 63(5), 371–378. https://doi.org/10.1159/000498978

19. Ferreira, S. J, Machado, M. Â, de Lima, A. A, Johann, A. C, Grégio, A. M. and Azevedo-Alanis, L. R. (2017). "Identification of AgNORs and cytopathological changes in oral lichen planus lesions". Acta histochemica, 119(1), 32–38. https://doi.org/10.1016/j.acthis.2016.11.004

20. Jinza, S, Iki, M, Noguchi, S, Shuin, T, Kubota, Y, Takano, Y. and Masuda, M. (1996). "AgNOR staining of cell imprint preparations of human bladder cancer". Acta cytologica, 40(6), 1159–1164. https://doi.org/10.1159/000333975

21. Rao, D. S, Ali, I. M. and Annigeri, R. G. (2017). "Evaluation of diagnostic value of AgNOR and PAP in early detection of dysplastic changes in leukoplakia and lichen planus - a preliminary case-control study". Journal of oral pathology & medicine : official publication of the International Association of Oral Pathologists and the American Academy of Oral Pathology, 46(1), 56–60. https://doi.org/10.1111/jop.12457

22. Elangovan, T, Mani, N. J. and Malathi, N. (2008). "Argyrophilic nucleolar organizer regions in inflammatory, premalignant, and malignant oral lesions: a quantitative and qualitative assessment". Indian journal of dental research : official publication of Indian Society for Dental Research, 19(2), 141–146. https://doi.org/10.4103/0970-9290.4046

23. Tomazelli, K. B, Modolo, F. and Rivero, E. R. (2015). "Evaluation of AgNORs in Oral Potentially Malignant Lesions". Journal of oncology, 2015, 218280. https://doi.org/10.1155/2015/218280

24. Kim, W. K, Kim, J. H, Jeong, D. H, Chun, Y. H, Kim, S. H, Cho, K. J. and Chang, M. J. (2011). "Radish (Raphanus sativus L. leaf) ethanol extract inhibits protein and mRNA expression of ErbB(2) and ErbB(3) in MDA-MB-231 human breast cancer cells". Nutrition research and practice, 5(4), 288–293. https://doi.org/10.4162/nrp.2011.5.4.288

25. Yılmaz, S, Ülger, H, Ertekin, T, Yay, A. H, Nisari, M, Alpa, Ş. and Acer, N. (2019). "Investigating the anti-tumoral effect of curcumin on the mice in which Ehrlich ascites and solid tumor is created". Iranian journal of basic medical sciences, 22(4), 418-425.https://doi.org/10.22038/ijbms.2019.33623.8019

26. Yılmaz, S, Doğanyiğit, Z, Oflamaz, A. O, Ateş, Ş, Söylemez, E. S. A, Nisari, M. and Farooqı, A. A. (2023). "Determination of Rutin's antitumoral effect on EAC solid tumor by AgNOR count and PI3K/AKT/mTOR signaling pathway". *Medical oncology (Northwood, London, England)*, *40*(5), 131. https://doi.org/10.1007/s12032-023-01999-7

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New Epidemics Are At The Door: Leveraging Unanticipated Lessons from COVID-19 on Nutrition

Yeni Salgınlar Kapıda: Beslenme Konusunda COVID-19'un Beklenmedik Derslerinden Yararlanmak

Neşe KAYA[1], Aslı Gizem ÇAPAR[2], Eda BAŞMISIRLI[3], Hasan DURMUŞ[4],
Mualla AYKUT[5], Neriman İNANÇ[6]

ABSTRACT

The number of new cases of COVID-19 variants increasing globally in recent weeks. There is a need to learn lessons from COVID-19 experiences and take new measures to better respond to new epidemics and the devastating effects of the disease. This cross-sectional study aimed to investigate the changes in nutritional habits of individuals with COVID-19 diagnosis in the Kayseri sample in Turkey. This study was conducted with 479 participants aged 18-65 years who had positive COVID-19 PCR tests. The data were collected online using the sociodemographic data form. Changes in nutritional characteristics of participants compared to the pre-pandemic period were recorded. The results showed that the rate of participants who increased paying attention to a healthy diet during the pandemic was 83.1%. They changed their food choices towards a healthier pattern supporting immunity. Eating regularly, using nutritional and herbal supplements, and eating at home increased compared to the pre-pandemic period ($p<0.001$). No difference was found in the rate of paying more attention to healthy eating between individuals who gain and lose weight. We think that to navigate emerging new epidemics, this time we are more experienced to implicate healty nutritional habits to our live with the upside-down effect of COVID-19.

Keywords: COVID-19, Immunity, Dietary habits, SARS-CoV-2.

ÖZ

Son zamanlarda yeni COVID-19 varyantı vakalarının sayısı dünya çapında artış göstermektedir. Bu durumda beklenen yeni salgınlara ve hastalığın yıkıcı etkilerine daha iyi yanıt verebilmek için COVID-19 deneyimlerinden yararlanmaya ve yeni önlemler almaya ihtiyaç oluşmaktadır. Kesitsel tipteki bu çalışma, Türkiye'de Kayseri örneğinde COVID-19 tanısı alan bireylerin beslenme alışkanlıklarındaki değişimleri araştırmayı amaçlamıştır. Çalışma, COVID-19 PCR testi pozitif olan 18-65 yaş arası 479 katılımcı ile yürütülmüştür. Veriler sosyodemografik veri formu kullanılarak çevrimiçi olarak toplanmıştır. Pandemi öncesi döneme göre katılımcıların beslenme özelliklerinde değişiklikler kaydedilmiştir. Sonuçlar, pandemi döneminde sağlıklı beslenmeye dikkat etmeyi arttıran katılımcı oranının %83,1 olduğunu göstermiştir. Yiyecek seçimleri bağışıklığı destekleyecek şekilde daha sağlıklı bir beslenme düzenine doğru değişmiştir. Pandemi öncesi döneme göre düzenli beslenme, bitkisel takviyeler kullanma ve evde yemek yeme sıklığı artmıştır ($p<0,001$). Ağırlık artışı ve ağırlık kaybı olan bireyler arasında sağlıklı beslenmeye daha fazla dikkat etme oranında fark bulunmamıştır. Ortaya çıkabilecek yeni salgınlara karşı önlem almak için, bu sefer COVID-19'un beklenmedik ters etkisi ile sağlıklı beslenme alışkanlıklarını hayatımıza dahil etme konusunda daha tecrübeli olduğumuzu düşünmekteyiz.

Anahtar kelimeler: Bağışıklık, Beslenme alışkanlıkları, COVID-19, SARS-CoV-2.

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[1] Dr. Öğr. Üyesi Neşe KAYA, Nuh Naci Yazgan Üniversitesi, Sağlık Bilimleri Fakültesi, Beslenme ve Diyetetik Bölümü, nkaya@nny.edu.tr, ORCID: 0000-0002-5947-3238
[2] Dr. Öğr. Üyesi Aslı Gizem ÇAPAR, Nuh Naci Yazgan Üniversitesi, Sağlık Bilimleri Fakültesi, Beslenme ve Diyetetik Bölümü, gizem_pekmezci@hotmail.com , ORCID: 0000-0001-5459-9424
[3] Dr. Öğr. Üyesi Eda BAŞMISIRLI, Nuh Naci Yazgan Üniversitesi, Sağlık Bilimleri Fakültesi, Beslenme ve Diyetetik Bölümü, edadmrcgl@gmail.com , ORCID: 0000-0002-8198-478X
[4] Doç.Dr. Hasan DURMUŞ, Erciyes Üniversitesi, Tıp Fakültesi, Halk Sağlığı Anabilim Dalı, drhasandurmus@gmail.com , ORCID: 0000-0001-5719-1475
[5] Prof. Dr. Mualla AYKUT, Nuh Naci Yazgan Üniversitesi, Sağlık Bilimleri Fakültesi, Beslenme ve Diyetetik Bölümü, maykut@nny.edu.tr , ORCID: 0000-0002-9308-0454
[6] Prof. Dr. Neriman İNANÇ, Nuh Naci Yazgan Üniversitesi, Sağlık Bilimleri Fakültesi, Beslenme ve Diyetetik Bölümü, nerimaninanc@gmail.com , ORCID: 0000-0001-5026-4133

İletişim / Corresponding Author: Neşe KAYA
e-posta/e-mail: nkaya@nny.edu.tr

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INTRODUCTION

World Health Organisation (WHO) reported globally, the number of new cases of COVID-19 increased by 52% during the 28 days period of 20 November to 17 December 2023, with over 850 000 new cases reported.[1] From December 2023 to January 2024, there was an overall increase in new hospitalizations and intensive care unit admissions due to COVID-19 of 40% and 13%, respectively. As of December 2023, the sub-lineage of the omicron variant has been reported to have a rapid increase in prevalence in recent weeks. WHO recommends an update on hospitalizations and intensive care unit admissions and an update on the SARS-CoV-2 variants under monitoring.[2]

Although the COVID-19 epidemic has become a public health problem governing life all over the world as of March 2020, it is again worrying globally with its new variants. When we open a window to the effects of COVID-19 on our lives, we can say the following: nutritional habits, consumer behaviors, physical activity habits, sleep patterns, and daily living activities of individuals have been affected by the pandemic. Lifestyle has changed due to restriction measures, resulting in the risk of sedentary behavior and changes in eating and sleeping habits. Staying at home due to quarantine and hearing or reading about COVID-19 from the media can be quite stressful. Stress leads individuals toward overeating.[3,4] Additionally, emotional and psychological responses to COVID-19 may increase the risk of occurring dysfunctional eating behaviors.[5]

On the opposite side, based on the recommendations of supporting the immune system in the COVID-19 pandemic, a healthy lifestyle choosing foods rich in fruits and vegetables, exercising, maintaining weight, and getting enough sleep, some people tend to have healthy eating habits to support immune systems, and they took care to add antioxidant nutrients to their diets. In addition, during quarantine periods, individuals find more time for themselves and the decrease in confidence in meals cooked outside the home has led to an increase in individuals' interest in preparing meals at home.[6] The main dietary change during the pandemic was shown in the consumption of packaged foods and the consumption of vegetables and fruits. Some studies have reported individuals eating fewer fruits and vegetables,[7,8] some studies have indicated that fruit and vegetable consumption didn't change,[3,9] others have found that individuals increased fruit and vegetable consumption mainly to cope with the COVID-19.[10-12] During the COVID-19 pandemic, both an increased desire for healthy eating to defend against disease and, increased unhealthy eating occurred due to stress and faulty coping strategies. Eating habits and lifestyle modification could strongly affect and threaten our health. Maintaining an adequate nutritional status is crucial, especially during a specific period when the immune system may need to defense.[3]

In addition to the general effects of the COVID-19 pandemic and the social isolation on people's lifestyles and eating habits, being diagnosed with COVID-19 has been shown to have some additional effects on the dietary habits of people. The symptoms such as fever, fatigue, loss of appetite, insufficient food intake, and loss of taste and smell, also affect patients' nutritional status. While overeating, unhealthy food consumption, and overweight/obesity may occur due to stress and social isolation in people without being diagnosed with COVID-19, changes in diet composition and a tendency to care for healthy eating to support the immune system may occur in COVID-19 patients to cope with the symptoms of the disease.[10] The hypothesis of this study was the nutritional habits changed both positively and negatively during the COVID-19 pandemic. This study aimed to investigate the changes in nutritional habits of individuals with COVID-19 diagnosis in the Kayseri sample in Turkey during the COVID-19 pandemic period.

MATERIALS AND METHODS

Study design and participants

This cross-sectional study was conducted between February and May 2021 with participants aged 18-65 years and who registered in governmental family health centers with positive COVID-19 PCR tests in Kayseri Province Central Districts (Melikgazi, Kocasinan ve Talas) during the COVID-19 pandemic. The sample size was calculated (G-Power Version 3.1.9.4 Universität Düsseldorf, Germany) power of 80% with 0.05 significance, using a reference to a previous study (13) and generating a sample of 356 participants. Considering the dropout rate, 500 participants were aimed to reach, and 479 participants were included after removing the missing data. Individuals with COVID-19 diagnosis were included in order to more clearly observe the changes in the group that may experience the effects of the disease on nutrition most intensely. No pilot study was conducted before the study.

Data collection

The data were collected by using an online questionnaire consisting of 63 questions on sociodemographic characteristics, nutritional habits, physical activity, self-reported height and weight values, and changes in weight during the pandemic. The survey was created by the authors and its validity and reliability is not available. Nutritional characteristics and changes in the food consumption of participants compared to the pre-pandemic period were recorded. Food consumption and changes in habits were recorded according to individuals' self report, and the frequency of consumption of some foods was questioned, without including the porsions. BMI(Body mass index) was calculated and their BMI values were classified as underweight (<18.5 kg/m2), normal weight (18.5-24.9 kg/m2), overweight (25-29.9 kg/m2), and obese (≥30 kg/m2) (14). Regular physical activity was questioned as 1 hour at least 3 times a week. Participants, aged <18 or >65 years, who do not use a smartphone, who filled in the questionnaire insufficiently, and who were treated in a hospital with the diagnosis of COVID-19 were excluded from the study.

Ethical Aspect

Ethics committee approval (Ethics Committee Approval No: 1/713) was obtained from the Ethics Committee at Nuh Naci Yazgan University. Participants were informed about the study via the online platform, and their consent was obtained through an informed consent form.

Statistical Analysis

The data were analyzed using the Statistical Package Program for Social Sciences (SPSS 22.0) statistical program. Continuous variables were expressed as the mean and standard deviation. The regularity of the distribution of parameters was evaluated using the Shapiro–Wilk normality analysis. The differences between the categorical variables were examined with Chi-square analysis. Bonferroni test was used for multiple comparison between groups. The variables were presented by number (n) and percent (%). The significance level in the study was assumed as $p<0.05$.

Limitations

Since the study was conducted at the COVID-19 outbreak the data were collected by using an online questionnaire. Due to the limitations in online data collection, conditions that affect appetite and metabolism such as medication use that affects appetite, the presence of an eating disorder, and were on a special diet could not be excluded, and we think that this may have a confounding effect on the research results as a limitation. Biochemical and clinical data could also have provided a better evaluating disease severity and better interpretation of the changes in eating habits. In addition, our results may have been affected by restrictions and partial quarantine measures such as restrictions on eating out. Another limitation is that body weight measurement results are based on individuals' declarations and cannot be obtained with a standard weight scale. The data used to evaluate eating habits were obtained relatively based on the statements of the participants and without portion information is also a limitation of the study.

Although this study was conducted from almost all social classes in the Central Districts of Kayseri Province, the study findings may still not represent the entire population, making it difficult to generalize the findings.

RESULTS AND DISCUSSION

A total of 479 participants aged 18-65 years were included in the study with a mean age of 33.9±12.8. Most of them (57.4%) were 18-35 age group and 42.8% of them were female. 81.2% of participants had no chronic disease and 71.8% of them were not smoking. The mean BMI of participants was 25.6±4.7, 34.2% of them were overweight and 17.5% of them were obese (Table 1). The rate of participants who reported that they lost weight was 26.5%, gained weight was 27.3%, and no weight change was 46.2 % during the pandemic. The mean weight gain score was 5.6±3.2 kg and the mean weight loss score was 5.1±3.3 kg (Table 2).

The most common symptoms during COVID positive state were weakness (79.5%), loss of smell (58.9%), loss of taste (54.1%) and loss of appetite (56.4%). 70.8% of the participants reported decreased physical activity levels during the pandemic (Table 1).

The rate of participants with increased paying attention to a healthy diet during the pandemic compared to the pre-pandemic period was 83.1%. The rate of those who had a decreased appetite was 38.2% and an increased appetite was 23.2% during the pandemic in general (Table 2).

Table 1. Sociodemographic characteristics of the participants

Characteristics	n	%
Gender		
Female	205	42.8
Male	274	57.2
Age (x̄±SS) (min-max)	33.9 ±12.8	18.0-63.0
Age category		
18-35 year	275	57.4
36-50 year	137	28.6
51-65 year	67	14.0
Marital status		
Married	260	54.3
Single	219	45.7
Working status		
No work	32	6.7
Home working	13	2.7
Rotational working	195	40.7
Regular working	239	49.9
Income		
Having income lower than expenses	249	52.0
Having income equivalent to expenses	219	45.7
Having income higher than expenses	11	2.3
Chronic disease		
Yes	90	18.8
No	389	81.2
Smoking		
Yes	87	18.2
No	392	71.8
Symptoms during COVID-19 positive stage		
Nausea-vomiting	85	17.7
Diarrhea	148	30.9
Fatigue	381	79.5
Loss of taste	259	54.1
Loss of smell	282	58.9
Loss of appetite	270	56.4
Physical activity		
Yes	140	29.2
No	339	70.8
BMI classification		
Underweight	23	4.8
Normal weight	208	43.4
Overweight	164	34.2
Obese	84	17.5
BMI (kg/m2) (x̄ ± SS) (min-max)	25.6±4.7	15.7– 40.8

Abbreviations
BMI, Body mass index

Table 2: Changes in some characteristics of the participants during pandemic in general

Changes during pandemic	n	%
Sleep time		
Increase	142	29.6
Decrease	162	33.8
No change	175	36.6
Physical activity		
Increase	12	8.6
Decrease	99	70.7
No change	29	20.7
Increased paying attention to a healthy diet		
Yes	398	83.1
No	81	16.9
Food preference		
Consume more frozen-canned foods	12	2.5
Consume more fresh food	168	35.1
No change eating habits	299	62.4
Appetite		
Increased	111	23.2
Decreased	183	38.2
No change	185	38.6
Body weight		
Increased	131	27.3
Decreased	127	26.5
No change	221	46.2
Weight gain (kg) ($\bar{x}$ ± SS)	131	5.6±3.2
Weight loss (kg) ($\bar{x}$ ± SS)	127	5.1±3.3

During the pandemic, the rate of participants who have 3 or more meals/per day was lower (41.1% vs 46.1%) (p< 0.001); and those who have 3 or more snacks/per day (12.3% vs 7.1%) (p= 0.016), who used nutritional supplements (57.0% vs 24.4%) (p< 0.001), who used herbal supplements (35.3% vs 15.7%), who do not eat out the home (46.3% vs 9.8%) (p< 0.001), who orders food online less than 1-2 times/month (60.5% vs 46.6%) were higher than before the pandemic (Table 3).

Table 3. Nutritional characteristics of individuals before and during the pandemic

		Before the Pandemic		During the Pandemic			
Characteristics		**n**	**%**	**n**	**%**	**x²**	**p***
Meal	1 time/day	8	1.7[a]	30	6.3[b]	21.4	**<0.001**
	2 time/day	250	52.2	252	52.6		
	≥3 time/day	221	46.1	197	41.1		
Snack	None	134	28.0	125	26.1	15.63	**0.016**
	1 time/day	157	32.8	139	29.0		
	2 times /day	154	32.2	156	32.6		
	≥3 times/day	34	7.1[a]	59	12.3[b]		
Nutritional Suplement use	Yes	117	24.4[a]	273	57.0[b]	75.00	**<0.001**
	No	362	75.6[a]	206	43.0[b]		
Herbal Suplement use	Yes	75	15.7[a]	169	35.3[b]	143.57	**<0.001**
	No	404	84.3[a]	310	64.7[b]		
Eating out of home	None	47	9.8[a]	222	46.3[b]	69.02	**<0.001**
	1 time/month	172	35.9	164	34.2		
	1 times /week	149	31.1[a]	51	10.6[b]		
	≥2-3 times/week	111	23.2[a]	42	8.8[b]		

Table 3. Nutritional characteristics of individuals before and during the pandemic (continued)

Ordering food online	<1-2 times/month	223	46.6[a]	290	60.5[b]	44.36	
	1-2 times/ month	160	33.4	126	26.3		
	≥ 2-3 times/ week	96	20.0[a]	63	13.2[b]		**<0.001**
Drinking Water	1-5 glass	215	44.9[a]	163	34.0[b]	50.68	
	6-10 glass	207	43.2	222	46.3		**<0.001**
	≥11 glass	57	11.9[a]	94	19.6[b]		
Tea and herbal tea drinking	None	37	7.7	44	9.2	9.31	
	1-2 cup	198	41.3	188	39.2		0.157
	3-4 cup	116	24.2	122	25.5		
	≥5 cup	128	26.7	125	26.1		

* chi-square test, p<0.05
[ab] Statistically significant difference between groups

The rate of participants who have increased consumption of fruit and vegetables was 45.5%, high protein-containing foods (meat, poultry, egg, fish, and legume) was 29.6%, packaged products were 34.9%, salt was 85.2%, and onion/garlic was 38.2% during the pandemic (Table 4).

Table 4. Changes in the food consumption of individuals compared to the pre-pandemic period

Food/Food Group	Increased consumption	Decreased consumption
	n (%)	n (%)
Fruit and vegetable	218 (45.5)	19 (4.0)
High protein-containing foods (meat, poultry, egg, fish, legume)	142 (29.6)	21 (4.4)
Sugar	71 (14.8)	59 (12.3)
Salt	408 (85.2)	37 (7.7)
Packaged products	167 (34.9)	82 (17.1)
Onion/Garlic	183 (38.2)	9 (1.9)
Desert	101 (21.1)	81 (16.9)
Offal (head, trotter, etc.)	73 (15.2)	72 (15.1)
Cereals (rice, pasta, bread)	60 (12.5)	61 (12.7)

The rate of participants who reported an increase in appetite (respectively; 55.0% vs 4.5%), and increased consumption of sugar (respectively; 40.8% vs 16.9%), packaged products (respectively; 38.3% vs 17.4%), and cereals (rice, pasta, and white bread) (respectively; 40.0% vs 21.7%) in participants with weight gain was higher than those who stated that they lost weight (p<0.05) (Table 5). The rate of most common foods that participants stated that they started to consume more after the pandemic was fruit and vegetable (70.1%), meat and poultry (6.8%), and drink was herbal tea (69.3%), vinegar-added water (14.7%), and kefir (6.7%) (Data not shown in table).

Table 5: Nutritional characteristics of individuals according to weight change during the pandemic

During the Pandemic	Weight gain	Weight loss	No weight change	p*
	n(%)	n(%)	n(%)	
Increased paying attention to a healthy diet				
Yes	101 (25.4)	110 (27.6)	187 (47.0)	0.089
No	30 (30.7)	17 (21.0)	34 (42.0)	
Change in appetite				
Increased	61 (55.0)[a]	5 (4.5)[b]	45 (40.5)[a]	**<0.001**
Decreased	31 (16.9)[a]	82 (44.8)[b]	70 (38.3)[b]	
No Changed	39 (21.1)[a]	40 (21.6)[a]	106 (57.3)[b]	
Regular Physical Activity				
Yes	32 (22.9)	46(32.9)	62 (44.3)	0.100
No	99 (29.2)	81 (23.9)	159 (46.9)	
Ordering food online				
Yes	43(24.3)	46(26.0)	88(49.7)	0.413
No	88(29.1)	81(26.8)	133(44.0)	
Sugar consumption				
Increased	29(40.8)[a]	12(16.9)[b]	30(42.3)[a]	**0.020**
Decreased	90(25.8)[a]	93(26.6)[a]	166(47.6)[b]	
No Changed	12(20.3)	22(37.3)	25(42.4)	
Cereals (rice, pasta, bread) consumption				
Increased	24(40.0)[a]	13(21.7)[b]	23(38.3)[a]	**0.034**
Decreased	91(25.4)[a]	91(25.4)[a]	176(49.2)[b]	
No Changed	16(26.2)	23(37.7)	22(36.1)	
Packaged products consumption				
Increased	64(38.3)[a]	29(17.4)[b]	74(44.3)[a]	**<0.001**
Decreased	51(22.2)[a]	62(27.0)[a]	117(50.9)[b]	
No Changed	16(19.5)	36(43.9)	30(36.6)	
High protein-containing foods consumption (meat, poultry, egg, fish, legume)				**0.011**
Increased	48 (33.8)	43 (30.3)	51 (35.9)	
Decreased	8 (38.1)	7 (33.3)	6 (28.6)	
No Changed	75 (23.7)[a]	77 (24.4)[a]	164 (51.9)[b]	
Fruit and vegetable consumption				
Increased	60(27.5)	61(28.0)	97(44.5)	0.914
Decreased	67(27.7)	61(25.2)	114(47.1)	
No Changed	4(21.1)	5(26.3)	10(52.6)	

* chi-square test, $p<0.05$

[ab] Bonferroni test, Statistically significant difference between groups

This study showed that the rate of participants who increased paying attention to a healthy diet during the pandemic compared to the pre-pandemic period was 83.1%. Most of the participants who changed their food choices moved towards a healthier diet. During the pandemic, changes were observed in the lifestyles and habits of individuals around the world.[3,15] Studies have noticed the dramatic impact of isolation on health and eating behaviors. It has been reported that COVID-19 caused both positive and negative changes in eating behaviors.[16]

The effects of the pandemic on food choice and consumption were wide-ranging and multifactorial. Restrictions and health-related concerns have been reported to cause psychological effects on food consumption. COVID-19-related stress, depressive symptoms, mental fatigue, and anxiety have been demonstrated during the pandemic.[3] Acute stress typically reduces appetite; chronic stress increases appetite, and the consumption of high energy-density foods by acting on the adrenal glands to secrete cortisol.[17] Di Renzo et al. found that 32% of the participants indicated increased food consumption, and 14% indicated decreased food consumption during the pandemic.[3] Zachary et al showed that during quarantine of the participants, 59% ate more often with friends and family, 52% increased eating as a response to stress, 73% increased eating in bored time, and 65% increased snacking after dinner.[4] Elmacıoğlu found that 22.1 % of the participants increased their food consumption and portion size.[18] In this study, when the change in appetite, which generally affected eating habits throughout the pandemic period, was questioned, the rate of those who stated that there was an increase in appetite was found to be 38.2%, and the rate of those who stated that there was a decrease in appetite was 23.8%. However, when the loss of appetite was questioned only during the COVID positive stage, it was seen that the rate was higher (56.4%) compared to the general pandemic period. Appetite and food intake are also affected by the symptoms of COVID-19 infection. COVID-19 has been associated with clinical symptoms and changes in smell and taste.[19] Several studies showed alterations in smell and taste and other symptoms such as nausea and vomiting.[17, 20] It is thought that the higher rate of participants reporting loss of appetite while being COVID positive may be due to the fact that the loss of taste affects the loss of appetite, the loss of appetite is more pronounced during infection disease, and they remember the devastating effects of the disease better in this stage. In the current study, it was found that 54.1% of the participants had a loss of taste, 58.9% of them had a loss of smell 79.5% of them had tiredness during the COVID-19-positive stage. The appetite and food intake of participants were also affected by these changes. Although information based on individuals' statements regarding nausea, vomiting and GI symptoms were asked; including biochemical and clinical data could have provided a better interpretation of the changes in eating habits. Future studies may better interpret causative factors by adding biochemical findings.

All the devastating effects of COVID-19 have led individuals to make changes in their diet to increase immunity. Changes in food intake, a tendency to care for healthy eating to support the immune system, higher consumption of foods with high energy density related to stress and social isolation, and changes in food preferences have been shown in studies.[4,10] Changes in food choices have mostly gone towards a healthier eating pattern. This finding was also reported in several studies.[3,21,22] performed in different countries during the COVID-19 pandemic. Staying more hours at home may increase cooking at home and encourage better adaptation to healthier eating standards. Although there are different results in the literature regarding changes in eating habits during the pandemic period, most of these are positive changes.[17,23,24] In a study, 58% of participants reported changes in nutritional habits during the pandemic.[25] Jaeger et al. showed that 44% of the participants self-reported increased importance to healthy foods. Researchers stated that COVID-19 has caused changes towards healthier nutrition, and increased importance given to

consumption of foods recommended in nutritional guides.[23] Enriquez-Martinez et al. found that 38.4% of the participants reported they changed their eating patterns, 22.7% of the participants reported they ate healthier and 15.7% reported they ate less healthily during the pandemic.[24] A study by Kocak et al. conducted with individuals with and without COVID-19 diagnosis, found that approximately 1/3 of of the individuals stated that they ate healthier, and 1/5 of them stated that they ate unhealthier during the pandemic.[17] In the current study, it is thought that the rate of those who take care of healthy nutrition during the pandemic (83.1%) is higher than the other studies examining the general population with or without COVID-19 diagnosis, this may be due to the participants with COVID-19 diagnosis has a more attentive effect on healthy nutrition in individuals. It can be concluded that participants paid more attention to healthy nutrition habits after they were diagnosed with COVID-19. In addition, they have a higher consumption of fruit and vegetables and higher use of nutritional supplements and herbal supplements during the pandemic compared to before the pandemic.

Studies show that regular eating of whole food plant-based diets may improve the intestinal microbiota and support the immune system.[20,26] To support healthy food intake during the pandemic, the WHO published a report recommending that legumes, fresh fruits, and vegetables should be prioritized.[27] In the food consumption patterns of consumers during the pandemic, it was shown that participants mostly consumed fruits and vegetables, animal-based products,[28] and foods with high antioxidant content mostly due to fear of viral infection.[3,20] Ben Hassen et al. showed that 32.4% of the participants increased fruit and vegetable consumption.[29] Puścion-Jakubik showed a significant increase in the consumption of fruit and vegetables with a rate of 22% during the pandemic.[20] In line with the other studies' results which showed increased consumption of fruit and vegetables, in the current study, the rate of participants who have increased consumption of fruit and vegetables was found 45.5%. We thought that the relatively higher rate of individuals who say that they increase their consumption of fruit and vegetables in our study compared to other studies, may be due to those only individuals diagnosed with COVID-19 were included in our study and that they may be more susceptible to increase their consumption of more fruits and vegetables to contribute to the treatment of the disease and strengthen immunity. It is also known that some types of foods are of interest during the pandemic due to the anti-inflammatory and antiviral properties that come from elements found in especially vegetables, garlic, ginger, onions, curcuma, and berries.[30] Among increased animal-based products Yılmaz et al. found that 32.1% of the participants increased their consumption of meat, chicken, and fish.[31] Puścion-Jakubik showed of the participants 11.1% increased their consumption of meat and meat products and 16.7% of them increased their consumption of fish and processed fish during the pandemic.[20] Cancello et al. reported increased consumption of bread, pasta, and flour by 66% of participants and legumes by 24% of participants during the pandemic period.[11] We found the rate of participants who had increased consumption of high protein-containing foods (meat, poultry, egg, fish, and legume) was 29.6%, grains were 12.5%, and onion/garlic was 38.2% during the pandemic.

Mainly depending on the lockdown, staying at home for more hours, and stress several studies indicated an increased consumption of processed foods, junk foods, and snacks during the pandemic.[25,32] In a study, it was reported that 21.2% of the participants increased their carbohydrate consumption, 14.3% their sweet consumption, 8.6% their sugar consumption, and 19.5% their junk food consumption.[25] Although most participants who changed their food preferences stated shifting to healthier diets, consistent with the results of studies indicating increased consumption of processed foods, sugar, and salt, we also found increased rates of packaged products (34.9%), sweet foods-deserts (21.1%), and salt (85.2%). There are also studies that show

the opposite results. In a study by Molina-Montes et al., within the COVIDiet cross-national study, including data from 16 European countries, it was reported that the majority of participants (>90%) stated they maintained or decreased fast food and fried food consumption, and cooked more often during the pandemic and 2/3 of the participants stated they reduced the consumption of fast-food dishes.[32] Some studies also reported a decrease in ready-to-eat meal consumption during the pandemic.[33,34] Our results are also in line with these positive nutritional changes. We found that during the pandemic, the rate of participants who used herbal supplements, who had no eating out of the home, and who ordered food online less, were higher than before the pandemic. Although nutritional supplements, herbal supplements and herbal teas cannot be directly considered within the scope of healthy nutrition recommendations and their intake must be controlled, they are among the frequently preferred practices to increase immunity during the pandemic period. Although there are studies indicating an increased consumption of processed foods, breakfast cereals, and snacks, containing high in fats, sugars, and salt;[25,32] a large number of studies reported additional positive changes in the eating habits of individuals during the pandemic besides increasing fruit and vegetable, high antioxidant-containing foods and animal-based product consumption to support immunity.[20,30,33,34]

All these multifactorial changes in eating habits also led to changes in body weight, which are also important for body resistance. During the pandemic, concerning changes in food intake and activity levels, changes in the body weight of individuals have occurred. Although studies reported both weight gain and weight loss during the pandemic,[4,24] a general tendency towards an increase in weight was reported in the majority of studies. In a meta-analysis, it was reported that in several studies, more than 30% of the total study population reported weight gain.[15] Enriquez-Martinez found that 48.6% of the participants stated weight gain and 23.1% of them reported weight loss.[24] In a study by Pu´scion-Jakubik et al, it was found that 39% of participants stated that they had an increase in weight 3-5 kg during the pandemic, whereas 47.2% of participants stated no change.[20] The results of another study showed that 35% of the individuals have increased body weight, 20% of them lost weight and 36% of them have had no changes in their weight since the isolation began.[18] In this study, the rate of participants who reported that they gained weight was 27.3%, lost weight was 26.5%, and no weight change was 46.2% during the pandemic. The majority of individuals in the study worked rational (40.7%) or regular (49.9%), and most (70.8%) did not have regular physical activity. Factors such as restrictions during the pandemic, working from home, and inactivity may affect nutritional behaviors such as food preparation, online ordering, and eating out, and this may lead to changes in body weight.

Studies also investigated the changing eating patterns and weight status. The link between changing food patterns, snacking, and weight gain is well supported in several studies.[35,36] In a study by Daniel et al., the predictors of weight gain were reported as increased food intake, fast food, snacking, and canned products. They stated the rate of participants who increased food intake, who increased snacking, and who increased evening snacking was higher in those who stated weight gain than in those who stated that they had no weight gain during the pandemic ($p<0.001$).[35] In a study from Malesia, it was reported that the rate of participants who increased food consumption and who increased snacking was higher in those who stated weight gain than in those who stated that they had no weight gain ($p<0.001$).[36] In the current study, it was found that the rate of those who reported an increase in appetite and increased consumption of sugar, packaged products, and cereals in participants with weight gain was higher than those who stated that they lost weight. Although our study population mostly increased attention to healthy nutrition during the pandemic, the results were similar in the rate of those who pay more attention to

healthy eating between those who gain and lose weight.

When we interpret all these effects shown in the literature that COVID-19 has caused on our lives and nutrition, we can briefly say that, although COVID-19 has some devastating effects due to the disease and negative effects such as weight gain and lack of movement due to the lack-down, it has had an important impact to guide individuals to healthy eating habits to protect themselves from infectious diseases and increase immunity.

CONCLUSION AND RECOMMENDATIONS

In conclusion, this study has shown that, in addition to the many negativities caused by COVID-19 in our lives, it also brings positive experiences about strengthening immunity and turning to healthy eating habits. The impact of being diagnosed with COVID-19 on nutritional habits will guide individual immunity against new epidemics that are likely to be expected in the near future.

It is thought that to navigate emerging new epidemics, this time we are more experienced to implicate healty nutritional habits to our live. For future studies, a recommendation is to focus on the changes in individuals' attitudes toward nutrition and their awareness about nutrition as a precaution against possible future epidemics.

REFERENCES

1- WHO. (2023). COVID-19 Epidemiological Update. Edition 162 published 22 December 2023. https://www.who.int/publications/m/item/covid-19-epidemiological-update---22-december-2023 (Accessed on February 05, 2024).
2- WHO. (2024). COVID-19 Epidemiological Update. Edition 163 published 19 January 2024. https://www.who.int/publications/m/item/covid-19-epidemiological-update---19-january-2024 (Accessed on February 05, 2024).
3- Di Renzo, L, Gualtieri, P, Pivari, F, Soldati, L, Attinà, A, Cinelli, G, Leggeri, C, Caparello, G, Barrea, L, Scerbo, F, Esposito, E. and De Lorenzo, A. (2020). Eating habits and lifestyle changes during COVID-19 lockdown: an Italian survey, Journal of Translational Medicine, 8;18(1):229. 10.1186/s12967-020-02399-5
4- Zachary, Z, Brianna, F, Brianna, L, Garrett, P, Jade, W, Alyssa, D. and Mikayla, K. (2020). Self-quarantine and weight gain related risk factors during the COVID-19 pandemic, Obesity Research and Clinical Practice, 14(3):210-216. 10.1016/j.orcp.2020.05.004
5- Wang, C, Pan, R, Wan, X, Tan, Y, Xu, L, Ho, C.S. and Ho, R.C. (2020). Immediate Psychological Responses and Associated Factors during the Initial Stage of the 2019 Coronavirus Disease (COVID-19) Epidemic among the General Population in China, International Journal of Environmental Research and Public Health, 6;17(5):1729. 10.3390/ijerph17051729
6- Guney, O. and Sangün, L. (2021). How COVID-19 affects individuals' food consumption behaviour: a consumer survey on attitudes and habits in Turkey, British Food Journal, 123 (7), 2307-2320. 10.1108/bfj-10-2020-0949
7- Jia, P, Liu, L, Xie, X, Yuan, C, Chen, H, Guo, B, Zhou, J. and Yang, S. (2021). Changes in dietary patterns among youths in China during COVID-19 epidemic: The COVID-19 impact on lifestyle change survey (COINLICS), Appetite, 1;158:105015. 10.1016/j.appet.2020.105015
8- Giacalone, D, Frøst, MB. and Rodríguez-Pérez, C. (2020). Reported Changes in Dietary Habits During the COVID-19 Lockdown in the Danish Population: The Danish COVIDiet Study. Frontiers Nutrition, 8;7:592112. 10.3389/fnut.2020.592112
9- Poelman, M.P, Gillebaart, M, Schlinkert, C, Dijkstra, S.C, Derksen, E, Mensink, F, Hermans, R.C.J, Aardening, P, de Ridder, D. and de Vet, E. (2021). Eating behavior and food purchases during the COVID-19 lockdown: A cross-sectional study among adults in the Netherlands, Appetite, 1;157:105002. 10.1016/j.appet.2020.105002
10- Coulthard, H, Sharps, M, Cunliffe, L. and van den Tol, A. (2021). Eating in the lockdown during the Covid 19 pandemic; self-reported changes in eating behaviour, and associations with BMI, eating style, coping and health anxiety, Appetite, 1;161:105082. 10.1016/j.appet.2020.105082
11- Cancello, R, Soranna, D, Zambra, G, Zambon. A. and Invitti, C. (2020), "Determinants of the lifestyle changes during COVID-19 pandemic in the residents of Northern Italy", International Journal of Environmental Research and Public Health, 17, 6287, 1-13. 10.3390/ijerph17176287
12- Lamarche, B, Brassard, D, Lapointe, A, Laramée, C, Kearney, M, Côté, M, Bélanger-Gravel, A, Desroches, S, Lemieux, S. and Plante, C. (2021). Changes in diet quality and food security among adults during the COVID-19-related early lockdown: results from NutriQuébec. American Journal of Clinical Nutrition, 6;113(4):984-992. 10.1093/ajcn/nqaa363
13- Sidor, A. and Rzymski, P. (2020). Dietary Choices and Habits during COVID-19 Lockdown: Experience from Poland, Nutrients,12(6):1657. 10.3390/nu12061657
14- WHO. (2000). Obesity: Preventing and Managing the Global Epidemic. Report on a WHO Consultation; Report No. 894; WHO: Geneva, Switzerland; 2000. Available from: https://apps.who.int/iris/handle/10665/42330.
15- Bakaloudi, D.R, Barazzoni, R, Bischoff, SC, Breda, J, Wickramasinghe, K. and Chourdakis, M. (2022). Impact of the first COVID-19 lockdown on body weight: A combined systematic review and a meta-analysis, Clinical Nutrition, 41(12), 3046-3054. 10.1016/j.clnu.2021.04.015
16- Borsellino, V, Kaliji, S. A. and Schimmenti, E. (2020). COVID-19 drives consumer behaviour and agro-food markets towards healthier and more sustainable patterns. Sustainability, 12(20), 8366. https://doi.org/10.3390/su12208366
17- Kocak, T, Acar Tek, N, Atabilen, B. and Akbulut, G. (2023). Changes in individuals' eating habits and mood, sleep quality, and lifestyle during COVID-19, European Journal of Environment and Public Health, 7(2):em0129. https://doi.org/10.29333/ejeph/12604
18- Elmacıoğlu, F, Emiroğlu, E, Ülker, M.T, Özyılmaz Kırcali, B. and Oruç, S. (2021). Evaluation of nutritional behaviour related

to COVID-19, Public Health Nutrition, 24(3):512-518. 10.1017/S1368980020004140

19- Filippo, L, Lorenzo, R, D'Amico, M, Sofia, V, Roveri, L, Mele, R, Saibene, A. and Rovere-Querini, P. (2021). COVID-19 is associated with clinically significant weight loss and risk of malnutrition, independent of hospitalisation: A post-hoc analysis of a prospective cohort study, Clinical Nutrition, 40,2420e2426. 10.1016/j.clnu.2020.10.043

20- Puścion-Jakubik, A, Olechno, E, Socha, K. and Zujko, M.E. (2022). Eating Habits during the COVID-19 Pandemic and the Level of Antibodies IgG and FRAP-Experiences of Polish School Staff: A Pilot Study, Foods, 30;11(3):408. 10.3390/foods11030408

21- Górnicka, M, Drywie´n, M.E, Zielinska, MA. and Hamułka, J. (2020). Dietary and lifestyle changes during COVID-19 and the subsequent lockdowns among polish adults: PLifeCOVID-19 study, Nutrients, 12:2–20. 10.3390/nu12082324

22- Lehtisalo, J, Palmer, K, Mangialasche, F, Solomon, A, Kivipelto, M. and Ngandu, T. (2021). Changes in Lifestyle, behaviors, and risk factors for cognitive impairment in older persons during the first wave of the coronavirus disease 2019 pandemic in Finland: results fromthe FINGER study, Frontiers Psychiatry, 12:624125. 10.3389/fpsyt.2021.624125

23- Jaeger, S.R, Vidal, L, Ares, G, Chheang, S.L. and Spinelli, S. (2021). Healthier eating: Covid-19 disruption as a catalyst for positive change. Food Quality and Preference. 92:104220. 10.1016/j.foodqual.2021.104220

24- Enriquez-Martinez, O.G, Martins, M.C.T, Pereira, T.S.S, Pacheco, S.O.S, Pacheco, F.J, Lopez, K.V, Huancahuire-Vega, S, Silva, D.A, Mora-Urda, A.I, Rodriguez-Vásquez, M, Montero, López M.P. and Molina, M.C.B. (2021) Diet and Lifestyle Changes During the COVID-19 Pandemic in Ibero-American Countries: Argentina, Brazil, Mexico, Peru, and Spain, Frontiers Nutrition, 8:671004. 10.3389/fnut.2021.671004

25- Yaman, G.B. and Hocaoğlu, Ç. (2023). Examination of eating and nutritional habits in health care workers during the COVID-19 pandemic, Nutrition, 105:111839. 10.1016/j.nut.2022.111839

26- Antunes, A.E.C, Vinderola, G, Xavier-Santos, D. and Sivieri, K. (2020). Potential contribution of beneficial microbes to face the COVID-19 pandemic, Food Research International, 136,109577. 10.1016/j.foodres.2020.109577

27- WHO. (2024). Food and nutrition during self-quarantine: what to choose and how to eat healthily. https://www.who.int/europe/news/item/27-03-2020-food-and-nutrition-during-self-quarantine-what-to-choose-and-how-to-eat-healthily (Accessed on February 7, 2024)

28- Guney, O. & Sangün, L. (2021). How COVID-19 affects individuals' food consumption behaviour: a consumer survey on attitudes and habits in Turkey, British Food Journal, 123 (7), 2307-2320. 10.1108/bfj-10-2020-0949

29- Ben Hassen, T, El Bilali, H. and Allahyari, M.S. (2020), "Impact of COVID-19 on food behavior and consumption in Qatar", Sustainability, 12(6973), 1-18. https://doi.org/10.3390/su12176973

30- Oladele, J.O, Ajayi, E.I, Oyeleke, O.M, Oladele, O.T, Olowookere, B.D, Adeniyi, B.M, Oyewole, O.I. and Oladiji, A.T. (2020). A systematic review on COVID-19 pandemic with special emphasis on curative potentials of Nigeria based medicinal plants, Heliyon, 6(9):e04897. 10.1016/j.heliyon.2020.e04897

31- Yılmaz, HÖ, Aslan, R. and Unal, C. (2020). Effect of the COVID-19 Pandemic on Eating Habits and Food Purchasing Behaviors of University Students. National Public Health Journal Vol 15, No 3. https://journal.fkm.ui.ac.id/kesmas/article/view/3897

32- Molina-Montes, E, Uzhova, I, Verardo, V, Artacho, R, García-Villanova, B, Guerra-Hernández, E.J, Kapsokefalou, M, Malisova, O, Vlassopoulos, A, Katidi, A. et al. (2021). Impact of COVID-19 confinement on eating behaviours across 16 European countries: The COVIDiet cross-national study, Food Quality and Preference, 93, 104231. 10.1016/j.foodqual.2021.104231

33- Huber, BC., Steffen, J, Schlichtiger, J. and Brunner, S. (2021). Altered nutrition behavior during COVID-19 pandemic lockdown in young adults, European Journal of Nutrition, 60, 2593–2602. 10.1007/s00394-020-02435-6

34- Błaszczyk-B¸ebenek, E, Jagielski, P, Bolesławska, I, Jagielska, A, Nitsch-Osuch, A. and Kawalec, P. (2020). Nutrition Behaviors in Polish Adults Before and During COVID-19 Lockdown, Nutrients, 12, 3084. 10.3390/nu12103084

35- Daniel, M.M, Liboredo, J.C, Anastácio, L.R, Souza, T.C.M, Oliveira, L.A, Della Lucia, C.M. and Ferreira L.G. (2022) Incidence and Associated Factors of Weight Gain During the Covid-19 Pandemic, Frontiers Nutrition, 9:818632. https://doi.org/10.3389/fnut.2022.818632

36- Chen, H.W.J, Marzo, R.R, Anton, H, Abdalqader, M.A, Rajasekharan, V, Baobaid, M.F, Hamzah, H, Tang, H.C. And Ads, H.O. (2021). Dietary habits, shopping behavior and weight gain during COVID-19 pandemic lockdown among students in a private university in Selangor, Malaysia, Journal of Public Health Research, 10:(s2):2921. 10.4081/jphr.2021.2921

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Psychometric Properties of the Turkish Version of the Kids-Palatable Eating Motives Scale

Çocuklar İçin Lezzetli Yeme Motivasyonları Ölçeği'nin Türkçe Versiyonunun Psikometrik Özellikleri

Dilek DEMİR KÖSEM[1], Murat BEKTAŞ[2], Mary M BOGGİANO[3]

ABSTRACT

Scales that can elucidate the relationship between eating behavior and obesity in children and thereby improve the prevention and treatment of obesity in this population are lacking. This study was conducted to test the validity and reliability of the Turkish version of the Kids-Palatable Eating Motives Scale.

This methodological research was conducted between March 2023 and May 2023 with 344 children aged 8-18. The children completed a translated and back-translated version of the Kids-Palatable Eating Motives Scale. Validity analysis included content, face, and construct validity methods. Item, split-half method, and Cronbach's alpha coefficient were employed in testing reliability.

The scale consisted of 19 items and four sub-dimensions or motives. According to the explanatory factor analysis, the four-factor structure explained 72.19% of the total variance. Item factor loads varied between 0.32 and 0.99. The Cronbach's alpha coefficient of the scale was 0.92. The goodness of fit indices obtained from confirmatory factor analysis were GFI=0.92, CFI=0.97, IFI=0.97, RFI=0.94, NFI=0.95, TLI=0.96, and RMSEA=0.061. The research indicated that the Turkish Kids-Palatable Eating Motives Scale was valid, reliable, and appropriate for the Turkish language, culture, and Turkish youth who are at risk of obesity and its complications.

Keywords: Children, Palatable, Eating, Motivation, Obesity

ÖZ

Çocuklarda yeme davranışı ile obezite arasındaki ilişkiyi açıklayabilecek ve dolayısıyla bu popülasyonda obezitenin önlenmesini ve tedavisini geliştirebilecek ölçekler eksiktir. Bu çalışma Çocuklar için Lezzetli Yeme Motifleri Ölçeği'nin Türkçe versiyonunun geçerlik ve güvenirliğini test etmek amacıyla yapılmıştır.

Metodolojik tipte gerçekleştirilen araştırma, Mart 2023-Mayıs 2023 tarihleri arasında 8-18 yaş aralığındaki 344 çocuk ile gerçekleştirilmiştir. Çocukların Lezzetli Yeme Motifleri Ölçeği'nin çeviri-geri çeviri yöntemi kullanılarak dil uyarlaması sağlanmıştır. Geçerlilik analizi içerik, yüz ve yapı yöntemlerini içermektedir. Test güvenirliğinde madde, yarıya bölme yöntemi ve Cronbach alfa katsayısı kullanılmıştır.

Ölçek 19 maddeden ve dört alt boyuttan veya motiften oluşmuştur. Açıklayıcı faktör analizine göre dört faktörlü yapı toplam varyansın %72,19'unu açıklamaktadır. Madde faktör yükleri 0,32 ile 0,99 arasında değişmektedir. Ölçeğin Cronbach alfa katsayısı 0,92 olarak bulunmuştur. Doğrulayıcı faktör analizinde uyum iyiliği indeksleri GFI=0,92, CFI=0,97, IFI=0,97, RFI=0,94, NFI=0,95, TLI=0,96 ve RMSEA=0,061 olarak bulunmuştur. Araştırma sonucunda Çocuklar için Lezzetli Yeme Motivasyonları Ölçeği'nin Türk dili, kültürü, obezite ve komplikasyonları riski taşıyan Türk gençleri için uygun, geçerli ve güvenilir bir ölçek olduğu belirlenmiştir.

Anahtar Kelimeler: Çocuklar, Lezzetli, Yeme, Motivasyon, Obezite

This study was presented as an oral presentation at the 14th International Medical and Health Sciences Research Congress held in Ankara-Turkey between 23-24 December 2023.

[1] Dr. Öğr. Üyesi Dilek DEMİR KÖSEM, Hakkari Üniversitesi, Sağlık Bilimleri Fakültesi, Hemşirelik Bölümü, Çocuk Sağlığı ve Hastalıkları Hemşireliği ABD, dilekdemir624@gmail.com ORCID: 0000-0001-9914-8299
[2] Prof. Dr. Murat BEKTAŞ, Dokuz Eylül Üniversitesi Hemşirelik Fakültesi, Çocuk Sağlığı ve Hastalıkları Hemşireliği ABD, mbekta@gmail.com ORCID: 0000-0003-3327-8204
[3] Prof. Dr. Mary M BOGGİONA, Birmingham Alabama Üniversitesi, Psikoloji Bölümü, boggiano@uab.edu ORCID: 0000-0002-3662-155X

İletişim / Corresponding Author: Dilek DEMİR KÖSEM
e-posta/e-mail: dilekdemir624@gmail.com

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INTRODUCTION

Unhealthy food intake and maladaptive eating habits have adversely affected the healthy environment where children live all over the world, resulting in health problems that accompany overweight and obesity.[1,2] Obesity has come to be a critical and prevalent childhood health problem recently.[1,3] It causes many physical, mental, and social disorders at an early age.[2] Since childhood is an important time in life for developing healthy eating behaviors which can prevent obesity-related problems from developing in the coming years, it is the ideal time to adopt positive eating behaviors.[1,3]

The consumption of very delicious foods and beverages such as French fries, hamburgers, pizza, chocolate, soda, and fruit juice has played a considerable role in the development of childhood obesity.[4] These foods and beverages are rich in fat, sugar, salt, and calories and are extremely processed.[3] When they are consumed while the person does not feel hungry physiologically, they lead to weight gain excessively.[3,5,6] In other words, these delicious foods and beverages can be addictive and cause obesity by triggering overeating.[7-9] Very tasty foods and beverages can change the purpose of eating, from that of meeting basic nutritional needs to a habitual way of coping or of rewarding oneself. The Kids-Palatable Eating Motives Scale (K-PEMS) was particularly designed to reveal these alternate purposes or motives underlying the consumption of very delicious foods.[10,11] It identifies four motives: to socialize, cope, enhance reward, and conform.[10,12] Those who primarily eat to cope eat to ignore their concerns and feel better when they are feeling down.[12] The aim of eating primarily to enhance reward is to derive pleasure and excitement from the food itself. The aim of eating primarily to socialize is to increase the pleasure of parties and other gatherings. Eating primarily to conform includes yielding to pressure from family or friends or to be more accepted by them.[10,12] The frequency of consuming delicious foods and beverages for coping, rewarding, conformity, and social motivation in children is positively related to BMI.[10,11]

Despite the increase in research into the topic, there is a need for an increase in the number of studies to clarify the relationship between children's motives for palatable food eating and obesity better.[10,11] Cultural adaptations of the scales developed in other societies should be done so that the results of studies in different countries can be compared. For example, more K-PEMS motives were associated with higher BMIs in Chinese children than in American children.[11] A review of studies on children's palatable eating motives in Türkiye indicated that there were very few standard scales with established validity and reliability. We aimed to do the Turkish adaptation study of the Kids-Palatable Eating Motives Scale and test the reliability and validity of the measure in the present research

MATERIALS AND METHODS

Participants

The sample consisted of n=344 children aged 8-18 from two provinces, one located in the west and the other in the east of Türkiye. Inclusion criteria were age 8 to 18 and literacy in Turkish. Children whose parents refused to join the research were excluded. The final number of child participants was 344.

When the number of participants in the sample of scale development, validity, and reliability studies is determined, it has been emphasized in the literature that a sample with less than 200 subjects is inadequate to reveal the factor structure of the scale but that 300+ is adequate.[13] Additionally, for an adequate sample size, it needs to have individuals that are 5-10 times as many items as on the scale.[14,15] The item count of the scale was 20, so the sample included subjects more than 10 times the number of items.

Data Collection

Data were collected online from children who met the inclusion criteria between March and May 2023 using a questionnaire created on Google Forms. The link to the questionnaire was sent to the families in the social media network of the researchers through WhatsApp, Messenger, Telegram, Facebook, Instagram, and Twitter. The families participating in the study and their children were also requested to share the study link with other families having children aged 8 to 18. Participants were informed that the questionnaire could be filled out in 15-20 minutes, they were invited to the study, and informed consent of both parents and children was obtained.

Measures

Study data were collected using a Descriptive Information Form, which was created by the researchers following a review of the literature, and the Kids-Palatable Eating Motives Scale. The forms were filled by the children.

Descriptive Information Form

Participants' demographic information (age, gender, economic status), information on how the children evaluated their body weight and height, and whether they had an adequate and balanced diet were collected using this form.

The Kids-Palatable Eating Motives Scale (K-PEMS)

K-PEMS was developed to determine children's palatable eating motives. The original scale consisted of 20 items, but two of them were excluded because the factor loads of these items were below 0.30 (items 15 and 19). For this reason, the measure has 18 items. It uses a five-point Likert-type structure with the following options: 1=never/almost never, 2=some of the time, 3=half of the time, 4=most of the time, and 5=almost always/always. Factor analysis was done using the Varimax Kaiser Normalization rotation and Principal Components Analysis.

The scale has four motives or sub-dimensions: reward enhancement, coping, conformity, and social. Items on the coping sub-dimension are associated with eating to deal with worries and negative situations; those on the reward enhancement sub-dimension are related to eating for the pleasure of the food; the items of the social sub-dimension are associated with increasing enjoyment of parties and other social events; and those on the conformity sub-dimension are related to eating to be accepted and not to feel excluded. The sub-dimensions and their items are as follows: coping: 1, 4, 6, and 17; reward enhancement: 7, 9, 10, 13, and 18; social: 3, 5, 11, 14, and 16; and conformity: 2, 8, 12, and 20. Cronbach's alpha of the sub-factors varied between 0.64 and 0.90. Sub-dimension scores are calculated by taking the mean of the 1-5 point scale responses.[10] In addition, it was requested that item 19, which was removed by the author of the scale when obtaining permission for the scale, be included as an important item. Also, item 15 was added because it reflected an important sub-dimension and was adapted to the Turkish sample. It was determined that as the score obtained from the scale increased, children ate irregularly, their desire to eat delicious foods increased, and they overate. The scale was filled out by children and was determined to be a reliable and valid measure that could be employed to determine the individual motives of children for eating delicious foods and to assess the risk of developing eating disorders and obesity.

Procedures

In this study, the steps followed in the adaptation process were conducted under the guidance of the publications of the International Testing Commission and the World Health Organization. The adaptation process included translation, expert panel, back translation, pilot study, cognitive review, obtaining the final version, and documentation steps.[13,16]

The translation of the scale items into Turkish was performed independently by two instructors with expertise in English to achieve language equivalence. The two draft translations were compared and examined by the authors, and a draft Turkish form was

created. Nine experts were consulted for the content validity assessment of the form. The Davis technique was used in this evaluation.[17] It is recommended to consult at least three and a maximum of 20 experts.[15,18] The expert group consisted of five faculty members from Child Health and Diseases Nursing, two from Psychiatric Nursing, and two from Nutrition and Dietetics. They were contacted via e-mail, and an expert evaluation form was used to obtain expert opinions. They were asked to rate the items using 1=not appropriate, 2=somewhat appropriate (revision of item/statement is required), 3=quite appropriate (appropriate but needs revision), and 4=extremely appropriate (may remain the same). Content validity index (CVI) and content validity ratio (CVR) were used to evaluate expert opinions.[14,15] Following the expert evaluations, the draft form was translated back into English by an independent interpreter who did not know about the scale. The back translation was compared to the original English scale. The Turkish translation of some of the items was re-evaluated and improved. The scale was piloted to 21 children to test the intelligibility of the items. As a result, the scale items were found intelligible and the final form of the measurement tool was obtained. Children in the pilot group were not included in the sample. All steps performed until the final version was obtained were reported and presented.

Data Analysis

Data were analyzed on the SPSS V25 and AMOS V24 software packages. The significance level was set at $p<.05$ and a confidence interval of 95%. Descriptive data were presented using means and standard deviations (±). Language validity was performed using the translation-back translation method. Experts were consulted, a content validity index/ratio was calculated, interrater agreement was examined, a pilot study was conducted, and validity was analyzed with explanatory factor analysis (EFA) and confirmatory factor analysis (CFA) to achieve content validity. Besides, item analysis, split-half analysis, and Cronbach's alpha was calculated.

Ethical Considerations

The written permission of the author who developed the original form of the scale was obtained via e-mail. The study was approved by the Scientific Research and Publication Ethics Committee of the University (date: 03.03.2023, decision no: 2023/27-1). During the data collection process, children and their parents were informed about the research online, and their consent was obtained by asking them to check the "I agree to participate in the research" box on the first page of the questionnaire. At all stages of the study, the principles of scientific research and publication ethics were followed.

Limitations

One of the limitations of this research was the utilization of the convenience sampling method and the inclusion of only children and parents who agreed to fill out the questionnaire, which may have biased the sample to only those having online access. Also, test-retest reliability was not performed. Another limitation was the absence of children diagnosed with clinical obesity in the study.

RESULTS AND DISCUSSION

Descriptive Characteristics

Children's mean age was 13.26 ± 4.40, 50.9% of them (n=175) were female, and 49.1% (n=169) were male. Of the children, 81.7% (n=281) had equal income and expenses, 16.6% (n=57) had more income than their expenses, and 1.7% (n=6) had less income than their expenses. Also, 79.7% of them (n=274) described their weight and height as normal, and 91.0% (n=313) stated that they had an adequate and balanced diet.

Validity of the Turkish Kids-Palatable Eating Motives Scale

The item-level content validity index (I-CVI) of the Turkish-translated sale was between 0.98 and 0.99, and the scale-level content validity index (S-CVI) was 0.99.

When the sample size was analyzed, a KMO value of 0.915 was found. According to Bartlett's Sphericity test, the value of chi-square was significant ($\chi2$=6195.792, p<0.001). After the data was found suitable for factor analysis, EFA was done with principal components analysis to test the factor structure of the measure. The owner of the scale, requested to include item 19, which was removed from the original scale, and also add a new item (item 15) to parallel the revised adult PEMS. However, according to EFA results, the factor load of the 15th item remained low in the Turkish sample, and this item was removed by contacting the author of the original scale. The 19 items on the Turkish version were grouped into four sub-dimensions (coping, reward enhancement, social, and conformity) according to factor analysis. The sub-dimensions and their items were as follows: coping: items 1, 4, 6, and 17; reward enhancement: items 7, 9, 10, 13, and 18; social: items 3, 5, 11, 14 and 16; and conformity: items 2, 8, 12, 19 and 20. These factors explained 72.19% of the total variance, 5.31% of which belonged to the first factor (coping), 19.76% to the second factor (reward enhancement), 43.16% to the third factor (social), and 3.96% to the fourth factor (conformity). Eigenvalues were 1.304, 4.011, 8.425, and 0.994, respectively. Factor loadings of the items are listed in (Table 1).

The CFA fit indexes of the measure were DF= 134, $\chi2$= 307.443, $\chi2$/DF= 2.294, GFI=0.92, RMSEA =0.061, CFI=0.97, RFI=0.94, IFI=0.97, NFI=0.95, and TLI=0.96

As a result of the CFA, factor loadings of the measure were 0.78-0.98 for the coping sub-dimension (first factor, F1), 0.85-0.93 for the reward enhancement sub-dimension (second factor; F2), 0.87-0.95 for the social sub-dimension (third factor; F3), and 0.34-0.92 for the conformity sub-dimension (fourth factor; F4). CFA of the four sub-dimensions is given in Fig. 1.

Reliability Analysis Results for the Kids-Palatable Eating Motives Scale

Cronbach's alpha value of the scale was 0.92 for the total scale, 0.94 for the coping sub-dimension, 0.95 for the reward enhancement sub-dimension, 0.95 for the social sub-dimension, and 0.72 for the conformity sub-dimension. The correlation between the answers given to the items (1,3,5,7,9…) in the first half and the answers given to the items (2,4,6,8,10…) in the second half was analyzed with Spearman-Brown coefficient and Gutmann split-half analysis.

The split-half analysis indicated that Cronbach's alpha values were 0.87 and 0.82 for the first and second halves, respectively. The Spearman-Brown coefficient was 0.96, the Guttman split-half coefficient was 0.95, and the correlation coefficient between the two halves was 0.93. As a result of the analysis, Hotelling's T^2 value was determined as 3082.546, F=162.765, and p<0.001.

As shown in Table 2, the item-total score correlations of the measure varied from 0.32 to 0.78, and the item-sub-dimension score correlations changed from 0.34 to 0.93 (Table 2) (p<0.001).

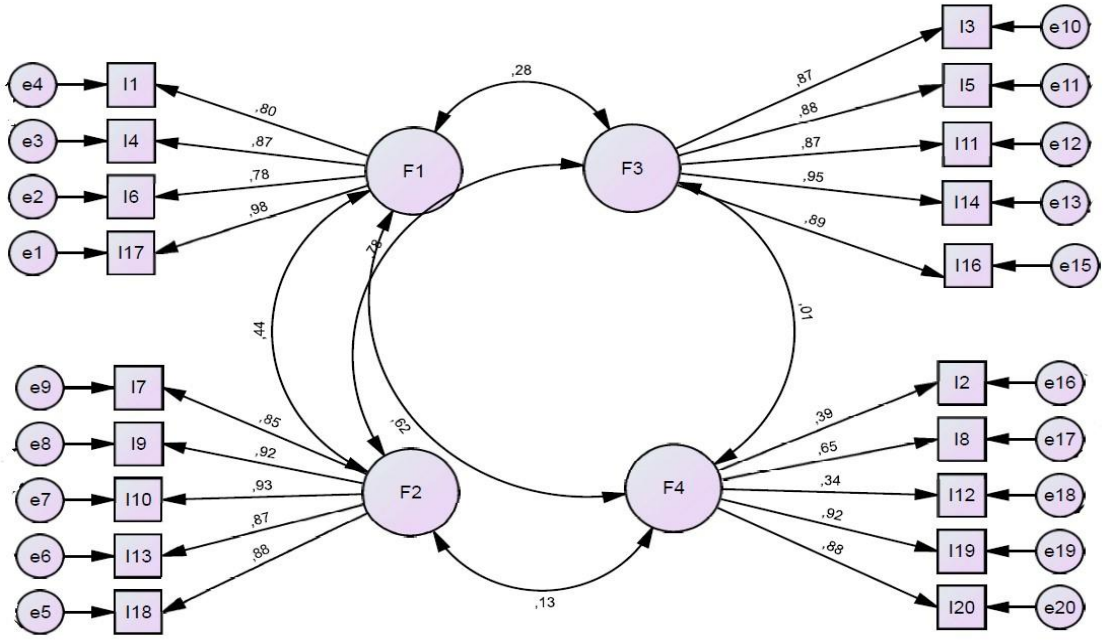

Figure 1. Structural Equation Model for Confirmatory Factor Analysis of the Kids-Palatable Eating Motives Scale

Table 1. Explanatory Factor Analysis Results for the Kids-Palatable Eating Motives Scale (n=344)

Items	Factor loads for sub-dimensions			
	Coping	Reward enhancement	Social	Conformity
Item 1	0.87			
Item 2				0.44
Item 3			0.88	
Item 4	0.99			
Item 5			0.97	
Item 6	0.80			
Item 7		0.84		
Item 8				0.74
Item 9		0.80		
Item 10		0.88		
Item 11			0.71	
Item 12				0.32
Item 13		0.81		
Item 14			0.99	
Item 16			0.79	
Item 17	0.79			
Item 18		0.73		
Item 19				0.82
Item 20				0.90
Explained variance(%)	5.31	19.76	43.16	3.96
Total explained variance (%)	72.19			
Eigenvalues	1.304	4.011	8.425	0.994
KMO coefficcient*	0.915			
Bartlett's test	6195.792 (p<0.001)			

*KMO: Kaiser-Meyer Olkin

Table 2. Item-total and Sub-dimension Total Score Correlations of the Turkish Kids-Palatable Eating Motives Scale (n=344)

Sub-dimensions	Items	Item-total score correlations *(r)**	Item-sub-dimension total score correlations *(r)**
Coping	I1	0.54	0.81
	I4	0.62	0.91
	I6	0.63	0.81
	I17	0.68	0.87
Reward enhancement	I7	0.73	0.84
	I9	0.78	0.88
	I10	0.78	0.88
	I13	0.76	0.86
	I18	0.70	0.80
Social	I3	0.65	0.84
	I5	0.65	0.89
	I11	0.67	0.84
	I14	0.69	0.93
	I16	0.65	0.86
Conformity	I2	0.43	0.45
	I8	0.32	0.63
	I12	0.40	0.34
	I19	0.37	0.62
	I20	0.32	0.63

The first step of the adaptation of a measurement tool to the target language and culture is to establish language validity.[19,20] During the language validity phase, it is very important to ensure that each item has cultural and linguistic consistency.[20] One-way translation, translation-back translation, and group translation methods are used to test the language equivalence of a measure, and the translation-back translation method is often preferred.[20,21] According to the comparison, the back-translated English scale and the original English version were consistent. Thus, the language adaptation of the Turkish scale was achieved. A CVI value of ≥0.80 indicates an acceptable level of content validity.[21,22] The CVI value of the scale items on the adapted version of the K-PEMS was 0.99, which was >0.80. In the study by Boggiano et al. (2015)[10], this value was not given. However, Wang et al. (2022)[11], who adapted the K-PEMS to Chinese, found the content validity index (0.85) greater than 0.80. In comparison, the Turkish adaptation had a higher content validity index than that of the Chinese version.

Today, EFA and CFA are widely used to determine construct validity in cross-cultural scale adaptation studies. EFA and CFA were also used in this study. Before the EFA was performed, Kaiser-Meyer-Olkin (KMO) and Bartlett's sphericity tests, which are hypothesis tests, were used to determine the applicability of the analysis.[18,19,22] These tests yielded significant results, rendering the scale suitable for factor analysis.

Four sub-dimensions were found in both the original K-PEMS (Boggiano et al., 2015)[10] and the Turkish adaptation, but one item was removed as its factor loading was low as a result of the addition of two items by the author of the original version of the scale. The reason for this may have been that the item could not be conceptually adapted. It was seen that this was compatible with the Chinese version.[11] High explained variance rates obtained in validity studies show that the factor structure of the scale is strong.[20,21] An explained variance ratio between 40% and 60% is considered adequate.[19,23] In this study, it was observed that the total variance ratio of the scale was >60% (72.19%). This value can be interpreted as proof that the scale measured children's palatable eating motives. The factor load values in a measurement tool show the association of the items with factors. Generally, it is recommended that the minimum value of an item must reach 0.30 so that it can be placed under a factor.[15,20] It was observed in this study that all items had enough factor loading values (0.32-0.99), which revealed that the measure had a good and valid structure.

CFA is used to examine whether a previously used scale complies with the original factor structure when it is adapted.[19,22] The fit index examined in CFA shows the chi-square ($\chi 2$) fit statistics. In addition, the ratio of the chi-square ($\chi 2$) fit statistics to the degree of freedom (DF) is examined, and a ratio below five indicates an acceptable fit.[15,19] In this study, it was determined that the $\chi 2$/DF value (2.294) was

less than five and that the model was acceptable. Wang et al. found the ratio of chi-square to the degree of freedom (4.052) less than five in the Chinese K-PEMS version (2022).[11] These results were similar to the result of our study. Other goodness-of-fit indices frequently used in CFA analysis in the literature are GFI, CFI, IFI, RFI, NFI, TLI, and RMSEA.[15,19] These values showed an acceptable level of fit in our study. In the Chinese version, Wang et al. (2022) found that the fit index values (GFI, TLI, AGFI, RMR) were >0.80, and the RMSEA value was >0.08 (0.085). When these results were compared with our study results, the fit indices of our study were better than those of the Chinese version. It is recommended that the factor loads of a scale obtained from CFA be ≥0.30.[22,23] The factor loads of the items in this research were at an adequate level as they ranged from 0.32 to 0.99. Wang et al. (2022) found factor loads (0.56-0.83) as >0.30 in the Chinese version.[11]These results were similar to those of our study.

Regarding the reliability of the Turkish K-PEMS, Cronbach's alpha values of the total scale (0.92) and its sub-dimensions (0.72-0.95) were >0.60. The alpha values ranged from 0.64 to 0.90 for the original K-PEMS (Boggiano et al., 2015)[10] and from 0.92 to 0.93 for the Chinese version.[11] Turkish and Chinese adaptations of the scale had comparable Cronbach's alpha values, but the value of the Turkish version was greater than that of the original study. This may have been in part due to the addition of the two items.

One of the methods for measuring internal consistency reliability is the split-half method.[15,22] The time-dependent invariance of the scale was examined by using the split-half approach instead of the test-retest method to avoid the effect of awareness about the scale items.[15,23] An equation developed by Spearman-Brown was also used to obtain the reliability coefficient for the total scale.[15,22,23] It is expected that there is a correlation of at least 0.70 between the two halves, Cronbach's alpha values of both halves are >0.70, and that the Spearman-Brown and Guttmann split-half coefficients are >0.80.[15,22] In this study, it was determined that the correlation between the two halves of the scale (0.93) and Cronbach's alpha coefficients (0.72-0.95) were >0.70 and that the Spearman-Brown (0.96) and Guttmann split-half coefficients (0.95) were >0.80. The results of the split-half test were above the recommended values. Boggiano et al. (2015)[10], in their original study, and Wang et al. (2022)[11], in the Chinese version, had not performed a split-half analysis; therefore, we could not compare our study results. These results in our study revealed that the scale was highly reliable.

Another method that is used to test reliability and internal consistency is item analysis.[21] Item analysis shows how much the scale items are related.[19,21] An item-total correlation of ≥0.30 indicates that the scale items distinguish the measured features of individuals well.[22,23] In this study, item-total score (0.32-0.78) and item-sub-scale score (0.34-0.93) correlations were >0.30 and all items were at an acceptable level. Boggiano et al. (2015)[10], in their original study, and Wang et al. (2022)[11], in the Chinese version, had not provided item-total score correlation analysis of the scale and sub-dimensions, so we could not compare our study results.

CONCLUSION AND RECOMMENDATIONS

The Kids-Palatable Eating Motives Scale is a reliable and valid measure to be employed in Turkish society. The scale can be used by researchers and clinicians to determine children's primary palatable eating motives and to assess risk of developing obesity and eating disorders.[10,24] Making children and their parents aware of their primary palatable eating motive and targeting the habit with behavioral methods may lead to healthier eating habits and coping and reward strategies. In addition, the use of this scale may contribute to the treatment of children diagnosed with clinical obesity and eating disorders. Clinicians can target the motive for change by identifying the child's primary

palatable eating motives and the conditions that make him/her most vulnerable to overeating palatable foods. It is thought that this measurement tool will form a very good theoretical and experimental foundation for future obesity and eating disorder research. It is recommended to conduct descriptive and experimental studies with this scale, in which children's palatable eating motives are evaluated according to their BMI. Cross-cultural comparative studies can also be conducted using this scale.

REFERENCES

1. Jalo, E, Konttinen, H, Vepsäläinen, H, Chaput, J.P, Hu, G, Maher, C, Maia, J, Sarmiento, O.L, Standage, M, Tudor-Locke, C, Katzmarzyk, P.T. and Fogelholm, M. (2019). "Emotional Eating, Health Behaviours, and Obesity in Children: A 12-country Cross-Sectional Study". Nutrients, 11(2), 351. https://doi.org/10.3390/nu11020351.
2. Sahoo, K, Sahoo, B, Choudhury, A.K, Sofi, N.Y, Kumar, R. and Bhadoria, A.S. (2015). "Childhood Obesity: Causes and Consequences". Journal of Family Medicine and Primary Care, 4(2),187-192. https://doi.org/10.4103/2249-4863.154628.
3. Obregón, A.M, Pettinelli, P.P. and Santos, J.L. (2015). "Childhood Obesity and Eating Behavior". Journal of Pediatric Endocrinology & Metabolism, 28(5-6), 497-502. https://doi.org/10.1515/jpem-2014-0206.
4. Keser, A, Yüksel, A, Yeşiltepe-Mutlu, G, Bayhan, A, Özsu, E. and Hatun, Ş. (2015). "A New Insight into Food Addiction in Childhood Obesity". The Turkish Journal of Pediatrics, 57(3), 219-224.
5. Bozkurt, O. and Yıldıran, H. (2022). "The Relationship Between Hedonic Hunger and Obesity in Children and Adolescents". Gazi Journal of Health Sciences, 7(2), 103-110. https://doi.org/10.52881/gsbdergi.1034683.
6. Kaur, K. and Jensen, C.D. (2021). Does "Hedonic Hunger Predict Eating Behavior and Body Mass in Adolescents with Overweight or Obesity"? Children's Health Care, 51(2), 184-198. https://doi.org/10.1080/02739615.2021.1983435.
7. Gearhardt, A.N, Davis, C, Kuschner, R. and Brownell, K.D. (2011). "The Addiction Potential of Hyperpalatable Foods". Current Drug Abuse Reviews, 4(3), 140-145. https://doi.org/10.2174/1874473711104030140.
8. Pretlow, R.A. (2011). "Addiction to Highly Pleasurable Food as a Cause of the Childhood Obesity Epidemic: A Qualitative Internet Study". Eating Disorders, 19(4), 295-307. https://doi.org/10.1080/10640266.2011.584803.
9. Yardley, H, Smith, J, Mingione, C. and Merlo, L.J. (2014). "The Role of Addictive Behaviors in Childhood Obesity". Current Addiction Reports, 1, 96-101. https://doi.org/10.1007/s40429-014-0012-0.
10. Boggiano, M.M, Wenger, L.E, Mrug, S, Burgess, E.E and Morgan, P.R. (2015). "The Kids-Palatable Eating Motives Scale: Relation to BMI and Binge Eating Traits". Eating Behaviors,17, 69-73. https://doi.org/10.1016/j.eatbeh.2014.12.014.
11. Wang, D, Boggiano, M.M, Huang, K, Hu, Y. and Fu, J. (2023). "Psychometric and Cross-Cultural Generalizability Outcomes of the Chinese version of the Kids-Palatable Eating Motives Scale (K-PEMS-C)". Journal of Health Psychology, 28(7), 663-674. https://doi.org/10.1177/13591053221129705.
12. Burgess, E.E, Turan, B, Lokken, K.L, Morse, A. and Boggiano, M.M. (2014). "Profiling motives behind hedonic eating. Preliminary Validation of the Palatable Eating Motives Scale". Appetite, 72, 66-72. https://doi.org/10.1016/j.appet.2013.09.016.
13. International Test Commission. (2018). "Guidelines for Translating and Adapting Tests". International Journal of Testing, 18(2), 101-134.
14. Polit, D.F. and Beck, C.T. (2012). "Nursing Research: Principles and Methods". 9th ed. Philadelphia: Lippincott Williams & Wilkins.
15. Tabachnick, B.G. and Fidell, L.S. (2015). "Using multivariate statistics" (M. Baloğlu, Trans.). Ankara: Nobel Academic Publishing.
16. World Health Organization. (2017). "Process of Translation and Adaptation of Instruments". https://www.who.int/substance_abuse/research_tools/translation/en (Accessed May 29, 2023).
17. Davis, L.L. (1992). "Instrument Review: Getting the Most From a Panel of Experts". Applied Nursing Research, 5(4), 194-197.
18. DeVellis, R.F. (2016). "Scale Development, Theory and Applications". 4th ed. India: SAGE Publication Inc.
19. Karagöz, Y. (2016). "SPSS 23 and AMOS 23 Applied Statistical Analysis". Ankara: Nobel Akademi Publishing.
20. Seçer, I. (2018). "Psychological Test Development and Adaptation Process; Spss and Lisrel Applications". 2 nd ed. Ankara: Anı Publishing.
21. Jonhson, B. and Christensen, L. (2014). "Educational Research: Quantitative, Qualitative, and Mixed Approaches". 3rd ed. California: SAGE Publication Inc.
22. Kartal, M. and Bardakçı, S. (2018). "Reliability and Validity Analysis with SPSS and AMOS Applied Examples". Ankara: Akademisyen Publishing.
23. Ozdamar, K. (2016). "Scale and Test Development Structural Equation Modeling". Ankara: Nisan Bookstore Publishing.
24. Orihuela, C.A, Mrug, S. and Boggiano, M.M. (2017). "Reciprocal Relationships Between Emotion Regulation and Motives for Eating Palatable Foods in African American Adolescents". Appetite, 117, 303-309. https://doi.org/10.1016/j.appet.2017.07.008.

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Turkish Adaptation, Validity and Reliability Study of The MIND Diet Scale for Delaying Neurodegeneration

Nörodejenerasyonun Geciktirilmesinde MIND Diyet Ölçeğinin Türkçe'ye Uyarlanması, Geçerlik ve Güvenirlik Çalışması

Büşra ATABİLEN[1], Merve Safa KILIF[2], Sevilay Nur ÇOŞKUN[3], Gül Hazal CEYHAN[4], Kısmet CİN[5], Yasemin AKDEVELİOĞLU[6]

ABSTRACT

Background: MIND diet is a nutritional model that has positive effects on neurological diseases, cognitive function and mental health, as it contains nutrients with antioxidant properties. The MIND diet scale was developed to evaluate the diet's adherence with the MIND nutritional model principles. **Objectives:** This study aimed to adapt the MIND Diet Scale into Turkish and assess validity, reliability of the scale in the Turkish population. **Method:** Language adaptation of the scale was provided and the serving sizes in the scale items were adapted to our country. Then, the scale was applied to volunteer participants aged 18 and over. The data of 150 participants were analyzed. Content, concurrent validity and reliability of the scale was tested. Cronbach's α (internal consistency) and test-retest reliability were used to assess the reliability. **Results:** The Cronbach's Alpha value of the 15-item MIND diet scale was 0.626 and the scale was found to have moderate reliability. Test and retest correlation also shows that the MIND diet scale is a reliable scale ($r=0.591$; $p<0.001$) The MIND diet scale mean score was 7.17±2.13 points. Finally, it was found that there was a statistically significant positive correlation between MIND total scores, Mediterranean Diet Adherence Scale and DASH diet index scores. **Conclusion:** This study is the first to evaluate the validity and reliability of the MIND diet scale in Turkish population. Study results showed that the scale was valid and moderately reliable tool.

Keywords: MIND diet, Neurological diseases, Turkish adaptation, Reliability, Validity

ÖZ

Giriş: MIND diyet, antioksidan özelliklere sahip besinleri içermesi nedeniyle nörolojik hastalıklar, bilişsel işlev ve mental sağlık üzerinde olumlu etkileri olan bir beslenme modelidir. MIND diyet ölçeği, diyetin MIND beslenme modeli ilkelerine uygunluğunu değerlendirmek için geliştirilmiştir. **Amaç:** Bu çalışmada MIND Diyet Ölçeği'nin Türkçe'ye uyarlanması ve ölçeğin Türk toplumunda geçerlik ve güvenirliğinin değerlendirilmesi amaçlanmıştır. **Yöntem:** Ölçeğin dil uyarlaması sağlanmış ve ölçek maddelerindeki porsiyon boyutları ülkemize göre uyarlanmıştır. Türkçe uyarlama ve kapsam geçerliliğinden sonra ölçek 18 yaş ve üzeri gönüllü katılımcılara uygulanmıştır. Çalışma 150 katılımcı ile tamamlanmıştır. Ölçeğin eş zamanlı geçerliliği ve güvenirliği test edilmiştir. Güvenilirliği değerlendirmek için Cronbach α (iç tutarlılık) ve test-tekrar test güvenilirliği kullanılmıştır. **Bulgular:** 15 maddelik MIND diyeti ölçeğinin Cronbach Alpha değeri 0,626 olup ölçeğin orta düzeyde güvenilirliğe sahip olduğu belirlenmiştir. Test-tekrar test korelasyonu da MIND diyeti ölçeğinin güvenilir bir ölçek olduğunu göstermektedir ($r=0,591$; $p<0,001$). MIND diyeti ölçeği puan ortalaması 7,17±2,13'tür. Son olarak MIND diyet ölçeği toplam puanı, Akdeniz Diyeti Uyum Ölçeği ve DASH diyet indeksi puanları arasında istatistiksel olarak anlamlı pozitif korelasyon olduğu tespit edilmiştir. **Sonuç:** Bu çalışma MIND diyeti ölçeğinin Türk toplumunda geçerlik ve güvenirliğini değerlendiren ilk çalışmadır. Araştırma sonuçları ölçeğin geçerli ve orta derecede güvenilir bir araç olduğunu göstermektedir.

Anahtar Kelimeler: MIND diyet, Nörolojik hastalıklar, Türkçe uyarlama, Güvenilirlik, Geçerlik

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[1] Ph.D. Research Assistant, Büşra ATABİLEN, Karamanoğlu Mehmetbey University Faculty of Health Sciences Department of Nutrition and Dietetics, busraatabilen@kmu.edu.tr, ORCID: 0000-0002-8485-1763
[2] Dietitian, Merve Safa KILIF, Gazi University Faculty of Health Sciences Department of Nutrition and Dietetics, mervesafaklf@gmail.com, ORCID: 0009-0003-2788-8572
[3] Dietitian, Sevilay Nur ÇOŞKUN, Gazi University Faculty of Health Sciences Department of Nutrition and Dietetics, sevilaynur921@gmail.com, ORCID: 0009-0000-8081-6648
[4] Dietitian, Gül Hazal CEYHAN, Gazi University Faculty of Health Sciences Department of Nutrition and Dietetics, ghc.ceyhan@gmail.com, ORCID: 0009-0006-9229-2304
[5] Dietitian, Kısmet CİN, Gazi University Faculty of Health Sciences Department of Nutrition and Dietetics, kismetcin239@gmail.com, ORCID: 0009-0001-7496-326X
[6] Prof., Yasemin AKDEVELİOĞLU, Gazi University Faculty of Health Sciences Department of Nutrition and Dietetics, demirciogluy@gmail.com, ORCID: 0000-0002-2213-4419
İletişim / Corresponding Author: Büşra ATABİLEN
e-posta/e-mail: busraatabilen@kmu.edu.tr
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INTRODUCTION

In recent years, the MIND (Mediterranean-DASH intervention for neurodegenerative delay) diet is recommended as a nutritional model. MIND diet is important in preventing the development of neurodegenerative diseases and it has positive effects on cognitive function and reduces the risk of depression.[1-6] In a study conducted with the older age group, it was reported that individuals with high MIND diet adherence had less decrease in physical functions and higher muscle strength.[7] In addition, it was shown that MIND diet adherence was associated with a reduction in the risk of stroke[8] and cardiovascular disease.[9] Studies show that the MIND diet can have many health effects, especially neurological and mental health. The principles of this diet model are as follows:

- ✓ Whole grains (at least 3 servings/day)
- ✓ Green leafy vegetables (6 servings/week)
- ✓ Other vegetables (at least 1 serving/day)
- ✓ Berries (at least 2 servings/week)
- ✓ Fish (at least 1 portion/week)
- ✓ Poultry (at least 2 portions/week)
- ✓ Beans (>3 servings/week)
- ✓ Nuts (at least 5 servings/week)
- ✓ Olive oil
- ✓ Recommendations for limiting consumption of red meat, processed meat products, cheese, butter, margarine, fried and sugary foods.[10, 11]

The most important feature of the MIND diet is the inclusion of foods with high antioxidant content. For example, berries are rich in phenolic compounds such as phenolic acids, flavonols and anthocyanins. Therefore, they show anti-inflammatory and immunomodulatory effects and play a protective role against many diseases such as cardiovascular diseases, intestinal diseases and cancer.[12] Another prominent food in this diet is green leafy vegetables. Green leafy vegetables are important in the protection of cardiovascular diseases and cognitive function due to their dietary fiber, vitamin C (ascorbic acid), vitamin K (phylloquinone), magnesium and potassium content.[13] To reduce the saturated fatty acids, it is recommended to limit the consumption of foods such as red meat, processed meat products, butter, and cheese. Instead of saturated fatty acids, the intake of omega-3 fatty acids, is increased by consuming fish at least once a week, and the intake of monounsaturated fatty acids is increased with the recommendation of olive oil[14] and nuts.[15] Finally, increased production of short-chain fatty acids by the gut microbiota with consumption of whole grain products is associated with many health benefits.[16]

Today, the increase in average life expectancy brings an increase in the incidence of neurodegenerative diseases.[17] And the change in our eating habits towards a western diet has resulted in an increase in the inflammatory load of our diets.[18] For this reason, it is important to take preventive measures and slow down the progression of the diseases. As stated in the literature, MIND diet can be a dietary model that can be used to prevent neurodegenerative diseases and slow down progression. In addition, studies evaluating the effect of the MIND diet for other than neurodegenerative disease are insufficient. Therefore, our aim in this study is to adapt the MIND Diet Scale into Turkish and evaluate its validity and reliability.

MATERIAL AND METHODS

This study is a methodological study carried out to adapt the MIND Diet Scale to Turkish and evaluate its validity and reliability. Developing the original form of the scale, Prof. Dr. David A. Bennet was contacted via e-mail, and written permission was obtained for the validity-reliability study.

Study Group

Our research was conducted with individuals aged 18 and over who voluntarily

agreed to participate in the research. The necessary data for the study were collected between January 2023 and July 2023. Ethical permission was obtained from Gazi University Ethics Commission (Research Code No: 2022 – 1383, meeting decision dated 13.12.2022 and numbered 21).

There are different opinions about determining the size of the sample in the pilot study. While Evci and Aylar[19] found it sufficient to apply the pilot study approximately 5% of the target group, Şeker and Gençdoğan[20] stated that it would be sufficient to include 30 to 50 participants representing the target group in the pilot study. According to another opinion, it is stated that 5-10 times the size of the scale items should be considered when calculating the sample size methodologically in validity and reliability studies.[21] From this point of view, it is sufficient to include participants in the study sample at a rate of at least ten times (15×10) the number of items in the scale. Our study was completed with a total of 165 participants. However, due to missing and inconsistent data, the analysis was conducted on 150 participants.

Data Collection

The structured questionnaire created by the researchers was applied to the individuals by face-to-face interview. The questionnaire form includes questions for general information (age, education level, employment status, socio-economic level, smoking-alcohol use, etc.), anthropometric measurements such as body weight and height, and the MIND Diet Scale with language validity.

MIND Diet Scale

The MIND Diet Scale was developed by Morris et al.[22] The scale was developed in three steps: 1) determination of Mediterranean and DASH diet components that may be associated with the prevention of dementia and improvement in cognitive functions as a result of the literature review, 2) determination of food consumption frequency components that may be associated with the MIND diet, 3) taking into account the published studies, determination of daily portions and components to be used in the scoring of the diet.

Ten of the MIND diet components represent important healthy food groups for the brain (green leafy vegetables, other vegetables, nuts, berries, beans, whole grain products, fish, poultry, olive oil and wine) and the other 5 unhealthy food groups (red meat and processed meat products, butter and margarine, cheese, pastries and sweets, and fast-food/fried foods). Except for olive oil, three categories were created based on the weekly or daily consumption of each dietary component, and the categories were scored as 0, 0.5 or 1 point. For olive oil, 1 point was given if it was specified as the main oil source, and 0 points were given otherwise. Therefore, the total MIND diet adherence score ranges from 0 to 15 points.[22]

Turkish Adaptation Protocol

The scale was translated into Turkish by researchers whose mother tongue is Turkish, and who are fluent in English and have a good command of the terminology in the field. Afterwards, a panel of six experts was formed, and the panel was asked to evaluate the translation. The aim at this stage is to identify and resolve inadequate expressions/concepts and inconsistencies in the translation. After the expert panel's suggestions for translation were combined by the researchers and a consensus was reached on the scale items, the scale items were translated back into English by a linguist who knows both languages at the mother tongue level. Afterwards, an expert was consulted with the original version of the scale in English and the version translated into English, and this expert compared both versions in terms of meaning and similarity. After the suggestions from the experts, the relevant changes were made, and the scale was given its final shape.

Determination of Serving Sizes

Scoring in the MIND diet scale is made according to the amount of consumed serving size or the frequency of consumption. However, no information on serving sizes was given in the original version. Since the scale

was developed in the USA, the serving sizes in the scale items were adapted to our country. The amount corresponding to one serving size of each food group was obtained from the "MyPyramid Equivalents Database"[23] and the guide prepared by the United States Food and Drug Administration for the labeling of foods and serving sizes.[24] However, since the portion sizes for some foods are expressed in units such as cups and ounces, these units are converted to grams through the "Nutritionist Pro" program, and the expression is provided over the measurement units in our country (tablespoon, ladle, etc.).

Assessment of Content Validity

After the language validity of the scale was completed, an e-mail was sent to four faculty members who are experts in the field of Nutrition and Dietetics for content validity. For each question in the scale, experts have been asked mark on a form that includes (a) "Appropriate", (b) "The item should be lightly revised", (c) "The item should be reviewed seriously", and (d) "The item is not suitable" (Davis technique). In the Davis technique, the content validity indexes calculated by dividing the number of experts who marked options a and b for each item by the total number of experts are expected to be above 0.80.[25] For this study, the content validity index was shown as 1 for each item, as the experts marked the options "Appropriate" or "The item should be lightly revised" for each item.

Assessment of Concurrent Validity

It is a comparison of the results of alternative tools used to measure the same construct. In this study, the Mediterranean Diet Adherence Scale[26] and the DASH diet index[27] were used for assessment of concurrent validity. The relationships between the scales were examined with the Pearson Correlation Coefficient.

Reliability

The reliability of the scale was evaluated through internal consistency and test-retest reliability. The alpha coefficient method, developed by Cronbach (1951), is a frequently used technique to estimate the internal consistency of Likert-rated scales. If Cronbach's Alpha value is in the range of 0.80-1.00, the test has high reliability; in the range of 0.60-0.79, the test is quite reliable; in the range of 0.40-0.59, the reliability of the test is low and in the range of 0.00-0.39, the test is unreliable.[28]

When the scale is applied to the same participants at different times, getting similar answers indicates the test-retest reliability.[29] In this study, the scale was re-applied to 40 participants 2 weeks later and test-retest reliability was evaluated with the Pearson Correlation Coefficient. Statistical analyzes were performed with SPSS v27 (IBM Inc., Chicago, IL, USA) and R Project v3.6.1 (R Core Team, Vienna, Austria) software. The adaptation protocol, validity and reliability stages for the MIND Diet Scale were given in Figure 1.

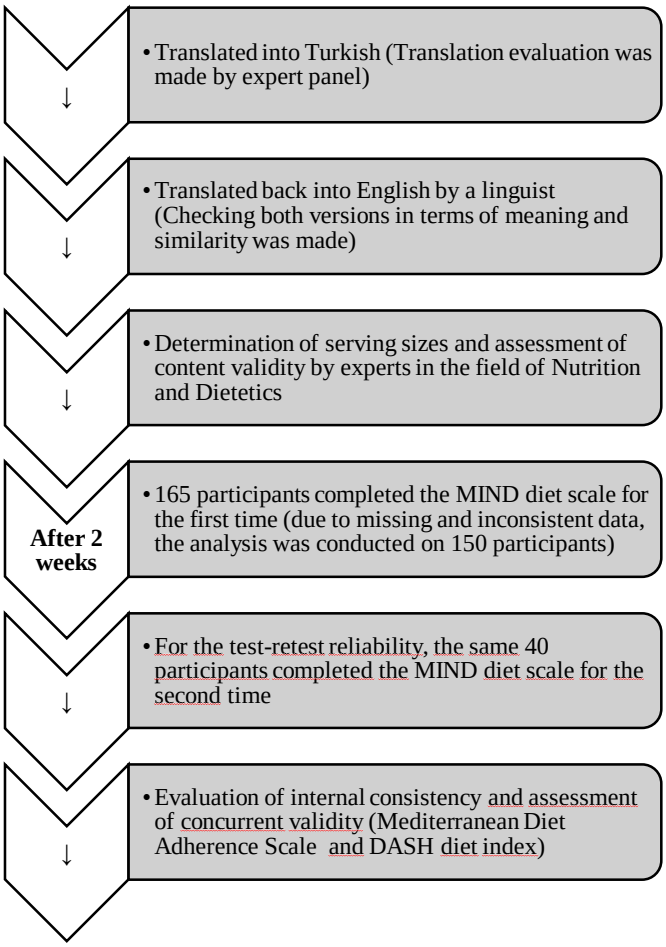

Figure 1. The Adaptation Protocol, Validity and Reliability Stages for The MIND Diet Scale

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RESULTS AND DISCUSSION

In this study, Turkish adaptation, validity, and reliability study of the MIND diet scale for delaying neurodegeneration was completed with a total of 150 participants (80.7% female, 19.3% male). Descriptive statistics of demographic, health, BMI and other characteristics findings of the participants were given in Table 1. The mean age of the participants was 27.4±8.49 years. In terms of educational status, the percentage of participants who have an associate degree or above was more than 80% in both genders. The percentage of male participants (58.6%) was higher than females (46.3%) according to working status. The marital status of 72.7% of the participants was single. The income of 49.3% of participants was equal to their expenses. 68.7% of the participants had no diagnosis of a chronic disease. 85% or more of the participants answered no for smoking and alcohol use. According to the body mass index classification, 55.2% of male participants were recorded as overweight and 77.7% of females were recorded as normal.

Cronbach's α Coefficient – Internal Consistency

In this study, the Cronbach's Alpha value of the 15-item MIND diet scale was 0.626 and the scale was found to have moderate reliability.[28, 30] Additionally, Cronbach's Alpha values of items were found to be between 0.563 and 0.646 according to the results of item analyses. Since there is no item with a value of <0.30; it is not necessary to remove any item from the scale (Table 2). However, if it is desired to increase the reliability of the scale, there is a reference that recommends reviewing the α value for each item and the removal of whichever item's α value reduces the total α value.[30]

Table 1. Descriptive Statistics of Demographic, Health, BMI and Other Characteristics Findings of The Participants

Variables	Male (n=29)		Female (n=121)		Total (n=150)	
	n	%	n	%	n	%
Age (year) ($\bar{X} \pm SD$)	27.7±7.62		27.3±8.71		27.4±8.49	
Working Status						
Yes	17	58.6	56	46.3	73	17
No	12	41.4	65	53.7	77	12

Table 1. (Continued)

Variables	Male (n=29)		Female (n=121)		Total (n=150)	
	n	%	n	%	n	%
Educational Status						
Primary school	-	-	1	0.8	1	0.7
High school	3	10.3	20	16.5	23	15.3
Associate degree	12	41.4	33	27.3	45	30.0
Bachelor's degree	6	20.7	38	31.4	44	29.3
Postgraduate	8	27.6	29	24.0	37	24.7
Marital Status						
Married	8	27.6	33	27.3	41	27.3
Single	21	72.4	88	72.7	109	72.7
Socio-economic status						
Income less than expenses	6	20.7	23	19.0	29	19.3
Income equal to expense	12	41.4	62	51.2	74	49.3
Income more than expenses	11	37.9	36	29.8	47	31.3
Chronic Disease Diagnosis						
Yes	3	10.3	44	36.4	47	31.3
No	26	89.7	77	63.6	103	68.7
Chronic Disease*						
Diabetes	-	-	2	3.8	2	3.6
Cardiovascular diseases	1	33.3	3	5.8	4	7.3
Kidney diseases	-	-	2	3.8	2	3.6
Digestive system diseases	1	33.3	3	5.8	4	7.3
Respiratory system diseases	-	-	6	11.5	6	10.9
Mental disorders	-	-	2	3.8	2	3.6
Vitamin/mineral deficiencies	-	-	9	17.3	9	16.5
Non-Diabetes Endocrine diseases	-	-	6	11.5	6	10.9
Neurological diseases	1	33.4	7	13.5	8	14.5
Other	-	-	12	23.2	12	21.8
Smoking						
Yes	14	48.3	7	5.8	21	14.0
No	15	51.7	114	94.2	129	86.0
Alcohol						
Yes	13	44.8	9	7.4	22	14.7
No	16	55.2	112	92.6	128	85.3
Water Consumption (ml/day) ($\bar{X} \pm SD$)	1600.0±744.50		1468.6±617.90		1494.0 ±643.71	
BMI Classification						
Underweight	-	-	8	6.6	8	5.3
Normal	12	41.4	94	77.7	106	70.7
Overweight	16	55.2	9	7.4	25	16.7
Obese	1	3.4	10	8.3	11	7.3
BMI (kg/m^2) ($\bar{X} \pm SD$)	25.0±3.27		22.6±3.39		23.0±3.50	

** Multiple response **BMI: Body mass index*

Table 2. Cronbach's Alpha Value and Item Total Statistics of The MIND Diet Scale

Cronbach's Alpha	N (number of items)
0.626	15

Item	Scale means if item deleted	Mean of variance if item deleted	Corrected item-Total correlation	Cronbach's alpha if item deleted
M1	6.8767	3.929	0.425	0.586
M2	6.8400	3.941	0.333	0.596
M3	6.9300	4.007	0.267	0.606
M4	6.7233	3.938	0.340	0.595
M5	6.5367	3.457	0.467	0.563
M6	6.5500	4.127	0.161	0.624
M7	6.6833	4.431	-0.008	0.646
M8	6.6867	4.344	0.041	0.641
M9	6.8367	3.878	0.361	0.591
M10	6.6900	4.160	0.235	0.612
M11	6.5267	3.795	0.371	0.587
M12	6.3933	4.311	0.080	0.634
M13	6.4600	4.029	0.284	0.604
M14	6.5533	3.886	0.331	0.595
M15	7.0933	4.538	-0.060	0.641

Test-Retest Reliability

It was found that there was a statistically significant positive (r=0.591; p<0.001) correlation between the MIND test and retest scores of the participants. The correlation coefficients are given in Table 3.

Table 3. Correlation Coefficient Between MIND Diet Scale Test and Retest Scores

	MIND total score: final test	
	r	**p**
MIND total score: pre-test	0,591	<0,001***

r: Pearson Correlation Coefficient

***p<0.001

Concurrent Validity

Since the MIND diet is a nutritional model that combines the Mediterranean and DASH diet principles, in this study, the Mediterranean Diet Adherence Scale and the DASH diet index were used for assessment of concurrent validity. It was found that there was a statistically significant positive medium correlation between MIND total scores and Mediterranean Diet Adherence Scale total scores (r=0.494; p<0.001), and a significant positive weak correlation between DASH diet index scores (r=0.174; p<0.05). When the results were examined, it was found that as MIND total scores increased, Mediterranean Diet Adherence and DASH diet index total scores increased by 49.4% and 17.4%, respectively (Table 4).

Table 4. Correlation Coefficient Between MIND Diet Scale and Mediterranean Diet Adherence Scale and The DASH Diet Index

	MIND total score	
	r	**p**
Mediterranean Diet Adherence Scale	0,494	<0,001***
DASH diet index	0.174	0.033*

r: Pearson Correlation Coefficient
*p<0.05

***p<0.001

MIND Total Score Summary Statistics

In this study, it was found that the MIND total score varied between 2.5 and 11.5, and mean score was 7.17±2.13 points (Table 5).

Table 5. MIND Total Score Summary Statistics

	$\bar{X} \pm SD$	Median (min-max)
MIND total score	7.17±2.13	8 (2.5-11.5)

This study aimed to adapt the MIND Diet Scale into Turkish and assess the validity, reliability of the scale in the Turkish population. In this study, the Cronbach's Alpha value of the 15-item MIND diet scale was 0.626 and the scale was found to have moderate reliability. Also, test-retest reliability of the MIND Diet Scale has been acceptable. For concurrent validity, it was found that there was a statistically significant

positive medium correlation between MIND total scores and Mediterranean Diet Adherence Scale total scores (r=0.494; p<0.001), and a significant positive weak correlation between DASH diet index scores (r=0.174; p<0.05).

There is only one study in the literature regarding the validity and reliability of the MIND diet scale. The stated study aimed to conduct confirmatory factor analysis of the MIND diet scale in elderly Greek participants with dementia. The confirmatory factor analysis revealed that the score of the nine of the fifteen items (green leafy vegetables, berries, nuts, butter and margarine, whole grains, fish, wine, fast fried foods, pastries and sweets) could discriminate the participants with dementia from the healthy control group (Cronbach's alpha=0.67).[31]

In this study, it was found that the MIND total score varied between 2.5 and 11.5, and mean score was 7.17±2.13 points. Similarly, in a study evaluating the effect of the MIND diet on metabolic health, the mean MIND diet score of individuals was found to be 7.1 ± 2.0 points.[32] In another study evaluating MIND diet adherence in adults with a mean age of 34.1 ± 6.0 years, the result was recorded as 7.3 ± 1.9 points.[33]

CONCLUSION AND RECOMMENDATION

As a result, the MIND diet scale is a content and concurrent valid and reliable scale. We could not perform explanatory factor analysis. However, this scale will allow future studies to perform this test. In future studies, we recommend increasing the sample size and ordering the portion sizes from smallest to largest in reverse questions (items 6, 7, 12, 13 and 14). In addition, since the MIND diet is a nutritional model used especially in neurological diseases and in the evaluation of mental health, it is recommended to perform a validity and reliability studies in these disease groups or elderly population.

REFERENCES

1. Fresán, U, Bes-Rastrollo, M, Segovia-Siapco, G, Sanchez-Villegas A, Lahortiga, F, de la Rosa, P. A. et al. (2019). "Does the MIND diet decrease depression risk? A comparison with Mediterranean diet in the SUN cohort". European journal of nutrition, 58, 1271-82.
2. Agarwal, P, Wang, Y, Buchman, A, Holland, T, Bennett, D. and Morris, M. (2018). "MIND diet associated with reduced incidence and delayed progression of Parkinsonism in old age". The journal of nutrition, health & aging, 22, 1211-5.
3. Angeloni, C, Businaro, R. and Vauzour, D. (2020). "The role of diet in preventing and reducing cognitive decline". Current opinion in psychiatry, 33, 432-8.
4. Barnes, L.L, Dhana, K, Liu, X, Carey, V.J, Ventrelle, J, Johnson, K. et al. (2023). "Trial of the MIND Diet for Prevention of Cognitive Decline in Older Persons". New England Journal of Medicine, 389, 602-11.
5. Salari-Moghaddam, A, Keshteli, A.H, Mousavi, S.M, Afshar, H, Esmaillzadeh, A. and Adibi, P. (2019). "Adherence to the MIND diet and prevalence of psychological disorders in adults". Journal of affective disorders, 256, 96-102.
6. Chen, H, Dhana, K, Huang, Y, Huang, L, Tao, Y, Liu, X. et al. (2023). "Association of the Mediterranean Dietary Approaches to Stop Hypertension Intervention for Neurodegenerative Delay (MIND) Diet With the Risk of Dementia". JAMA Psychiatry, 80, 630-8.
7. Talegawkar, S.A, Jin, Y, Simonsick, E.M, Tucker, K.L, Ferrucci, L and Tanaka, T. (2022). "The Mediterranean-DASH Intervention for Neurodegenerative Delay (MIND) diet is associated with physical function and grip strength in older men and women". The American journal of clinical nutrition, 115, 625-32.
8. Salari-Moghaddam, A, Nouri-Majd, S, Shakeri, F, Keshteli, A.H, Benisi-Kohansal, S, Saadatnia, M, et al. (2021). "The association between adherence to the MIND diet and stroke: a case–control study". Nutritional Neuroscience, 1-6.
9. Golzarand, M, Mirmiran, P. and Azizi, F. (2022). "Adherence to the MIND diet and the risk of cardiovascular disease in adults: a cohort study". Food & Function, 13, 1651-8.
10. Marcason, W. (2015). "What are the components to the MIND diet?" Journal of the Academy of Nutrition and Dietetics, 115, 1744.
11. Gerald J.R.D. (2018). "MIND diet for better brain aging". Health&Nutrition Letter, 36.
12. Lavefve, L, Howard, L.R. and Carbonero, F. (2020). "Berry polyphenols metabolism and impact on human gut microbiota and health". Food & function, 11, 45-65.
13. Kumar, D, Kumar, S. and Shekhar, C. (2020). "Nutritional components in green leafy vegetables: A review". Journal of Pharmacognosy and Phytochemistry, 9, 2498-502.
14. Mazzocchi, A, Leone, L, Agostoni, C. and Pali-Schöll, I. (2019). "The secrets of the Mediterranean diet. Does [only] olive oil matter?" Nutrients, 11, 2941.
15. Polmann, G, Badia, V, Danielski, R, Ferreira, S.R.S. and Block, J.M. (2022). "Nuts and nut-based products: A meta-analysis from intake health benefits and functional characteristics from recovered constituents". Food Reviews International, 1-27.
16. Tieri, M, Ghelfi, F, Vitale, M, Vetrani, C, Marventano, S, Lafranconi, A. et al. (2020). "Whole grain consumption and human health: an umbrella review of observational studies". International Journal of Food Sciences and Nutrition, 71, 668-77.
17. Huang, Y, Li, Y, Pan, H. and Han, L. (2023). "Global, regional, and national burden of neurological disorders in 204 countries and territories worldwide". Journal of global health, 13, 04160.
18. Christ, A, Lauterbach, M. and Latz, E. (2019). "Western Diet and the Immune System: An Inflammatory Connection". Immunity, 51, 794-811.
19. Evci, N. and Aylar, F. (2017). "Use of confirmatory factor analysis in scale development studies". J Soc Sci, 4, 389-412.
20. Şeker, H. ve Gençdoğan, B. (2006). "Psikolojide ve eğitimde ölçme aracı geliştirme". Ankara: Nobel Yayınevi.
21. Baştürk, S, Dönmez, G. ve Dicle, A.N. (2013). "Geçerlik ve Güvenirlik". In: S. BAŞTÜRK (Ed.). Bilimsel Araştırma Yöntemleri. Ankara: Vize Yayıncılık.
22. Morris, M.C, Tangney, C.C, Wang, Y, Sacks, F.M, Barnes, L.L, Bennett, D.A. et al. (2015). "MIND diet slows cognitive decline with aging". Alzheimer's & dementia, 11, 1015-22.

23. Bowman, S.A, Friday, J.E. and Moshfegh, A.J. (2008). "MyPyramid Equivalents Database, 2.0 for USDA survey foods, 2003–2004: documentation and user guide". US Department of Agriculture.
24. Food and Drug Administration (FDA). (2016). "Food labeling: serving sizes of foods that can reasonably be consumed at one eating occasion; dual-column labeling; updating, modifying, and establishing certain reference amounts customarily consumed; serving size for breath mints; and technical amendments". Final rule. Federal register, 81, 34000-47.
25. Davis, L.L. (1992). "Instrument review: Getting the most from a panel of experts". Applied nursing research, 5, 194-7.
26. Pehlivanoğlu, E.F.Ö, Balcioğlu, H. ve Ünlüoğlu, İ. (2020). "Akdeniz diyeti bağlılık ölçeği'nin Türkçe'ye uyarlanması geçerlilik ve güvenilirliği". Osmangazi Tıp Dergisi, 42, 160-4.
27. Casanova, M, Medeiros, F, Oigman, W. and Neves, M. (2014). "Low concordance with the DASH plan is associated with higher cardiovascular risk in treated hypertensive patients". International Scholarly Research Notices, 2014.
28. Alpar, C. (2016). "Spor Sağlık Ve Eğitim Bilimlerinden Örneklerle Uygulamalı İstatistik ve Geçerlik Güvenirlik". Detay Yayıncılık.
29. Weir, J.P. (2005). "Quantifying test-retest reliability using the intraclass correlation coefficient and the SEM". The Journal of Strength & Conditioning Research, 19, 231-40.
30. Kılıç, S. (2016). "Cronbach'ın alfa güvenirlik katsayısı". Journal of Mood Disorders, 6, 47-8.
31. Vassilopoulou, E, Koumbi, L, Karastogiannidou, C, Sotiriadis, P.M, Felicia, P.C. and Tsolaki, M. (2022). "Adjustment of the MIND diet tool for discriminating Greek patients with dementia: A confirmatory factor analysis". Frontiers in Neurology, 13, 811314.
32. Holthaus, T.A, Sethi, S, Cannavale, C.N, Aguiñaga, S, Burd, N.A, Holscher, H.D. et al. (2023). "MIND dietary pattern adherence is inversely associated with visceral adiposity and features of metabolic syndrome". Nutrition Research, 116, 69-79.
33. Holthaus, T.A, Kashi, M, Cannavale, C.N, Edwards, C.G, Aguiñaga, S, Walk, A.D.M. et al. (2022). "MIND Dietary Pattern Adherence Is Selectively Associated with Cognitive Processing Speed in Middle-Aged Adults". The Journal of Nutrition, 152, 2941-9.

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Evaluation of Social Appearance Anxiety, Self-Esteem, Eating Behavior, and Body Image in Rhinoplasty and Septoplasty Patients

Rinoplasti ve Septoplasti Hastalarında Sosyal Görünüm Kaygısı, Benlik Saygısı, Yeme Davranışı ve Beden İmajının Değerlendirilmesi

Muhammed Sefa UYAR[1], Gizem ÖZATA UYAR[2], Hilal YILDIRAN[3]

ABSTRACT

This study aimed to compare the relationship between social appearance anxiety, self-esteem, eating behavior, and body perception in individuals who applied to the Ear, Nose and Throat outpatient clinic for rhinoplasty and septoplasty. A total of 93 people were included, 44 patients in the rhinoplasty group and 49 patients in the septoplasty group. Social Appearance Anxiety Scale, Rosenberg Self-Esteem Scale, Dutch Eating Behavior Questionnaire (DEBQ), and Stunkard Scale (Body Image Scale) were applied to the individuals. The researchers took measurements of the participants' body weight (kg) and height (cm). The data obtained were analyzed using the statistical package program (SPSS). Rhinoplasty patients were found to have higher social appearance anxiety and lower self-esteem compared to septoplasty patients ($p<0.001$). There was no significant difference in Stunkard body dissatisfaction and DEBQ scores (external, emotional, and restrained eating) between groups ($p>0.05$). In both groups, a negative correlation was found between self-esteem and social appearance anxiety. However, this relationship was stronger in rhinoplasty patients ($r=-0.579$) compared to septoplasty patients ($r=-0.331$) ($p<0.05$). In both groups, restrictive eating and negative body image were positively correlated with BMI ($p<0.05$). A significant relationship was also found between BMI and emotional eating in the septoplasty group ($r=0.474$, $p<0.05$). Our study has shown that females who want to have rhinoplasty have higher social appearance anxiety and lower self-esteem. These findings demonstrated that comprehensive psychological assessment is important to improve both the mental health and overall outcomes of patients undergoing nasal surgery.

Keywords: Eating behavior, Social appearance, Self-esteem, Rhinoplasty, Septoplasty

ÖZ

Bu çalışmada Kulak Burun Boğaz Hastalıkları polikliniğine burun estetiği ve septoplasti ameliyatı için başvuran bireylerde sosyal görünüş kaygısı, benlik saygısı, yeme davranışı ve beden algısı arasındaki ilişkiyi karşılaştırmak amaçlanmıştır. Rinoplasti grubunda 44 hasta, septoplasti grubunda ise 49 hasta olmak üzere toplam 93 kişi dahil edilmiştir. Bireylere Sosyal Görünüm Kaygısı Ölçeği, Rosenberg Benlik Saygısı Ölçeği, Hollanda Yeme Davranışı Anketi (DEBQ) ve Stunkard Ölçeği (Beden İmajı Ölçeği) uygulandı. Katılımcıların vücut ağırlığı (kg) ve boy uzunluğu (cm) ölçümleri araştırmacılar tarafından alınmıştır. Elde edilen veriler istatistik paket programı (SPSS) kullanılarak analiz edilmiştir. Rinoplasti hastalarının septoplasti hastalarına kıyasla daha yüksek sosyal görünüm kaygısı taşıdığı ve daha düşük benlik saygısına sahip olduğu bulunmuştur ($p<0,001$). Stunkard beden memnuniyetsizliği ve DEBQ skorları (dışsal, duygusal ve kısıtlanmış yeme) açısından gruplar arasında anlamlı fark saptanmamıştır ($p>0,05$). Her iki grupta da benlik saygısı ile sosyal görünüş kaygısı arasında negatif bir ilişki bulunmuştur. Ancak bu ilişki rinoplasti hastalarında ($r=-0,579$) septoplasti hastalarına ($r=-0,331$) göre daha güçlüydü ($p<0,05$). Her iki grupta da kısıtlayıcı yeme ve beden imajından memnuniyetsizlik ile BKİ arasında pozitif ilişkili bulunmuştur. Septoplasti grubunda BKİ ile duygusal yeme arasında da anlamlı ilişki saptanmıştır ($r=0,474$, $p<0,05$). Çalışmamız burun estetiği olmak isteyen kadınların sosyal görünüm kaygısının daha yüksek ve özgüvenlerinin ise daha düşük olduğunu göstermiştir. Bu bulgular, burun ameliyatı geçirecek hastalarda kapsamlı psikolojik değerlendirmenin hem ruh sağlığını hem de genel sağlık sonuçlarını iyileştirmedeki önemini göstermiştir.

Anahtar Kelimeler: Yeme davranışı, Sosyal Görünüş, Benlik Saygısı, Rinoplasti, Septoplasti

This study was approved by the Ethics Committee at Gazi University (Code No:2024-54).

[1] Op. Dr. Muhammed Sefa UYAR, Otorinolaringoloji-Baş Boyun Cerrahisi, Ankara Akyurt State Hospital e-posta: drsefauyar@gmail.com, ORCID: 0000-0002-1149-6238
[2] Dr. Gizem ÖZATA UYAR, Beslenme ve Diyetetik, Kırıkkale Üniversitesi, Sağlık Bilimleri Fakültesi, Beslenme ve Diyetetik Bölümü, e-posta: gizemozata91@gmail.com, ORCID: 0000-0002-9022-6956,
[3] Prof. Dr. Hilal YILDIRAN, ORCID:0000-0001-7956-5087 Beslenme ve Diyetetik, Gazi Üniversitesi, Sağlık Bilimleri Fakültesi, Beslenme ve Diyetetik Bölümü, e-posta: ciftcihilal@hotmail.com
İletişim / Corresponding Author: Gizem ÖZATA UYAR
e-posta/e-mail: gizemozata91@gmail.com
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INTRODUCTION

Rhinoplasty surgery is one of the most popular facial plastic surgery procedures today.[1] Aesthetic rhinoplasty focuses on the physical appearance of the face and aims to change the shape of the nose.[2] It is stated that rhinoplasty surgery not only improves individuals' appearance but also improves mental, emotional, and functional health.[3] This situation significantly increases the life quality of individuals. The negative impact of others' perceptions on one's self-image can damage self-esteem, leading to anxiety, depression, and other psychological disorders.[2]

Appearance-related beliefs include the person's thoughts about her body, appearance, and the outside world. These thoughts affect people's self-esteem and social relationships, causing negative emotions. These emotions trigger anxiety. Social appearance anxiety refers to individuals' negative emotions when they anticipate being evaluated negatively based on their physical characteristics, such as body weight, height, skin color, and facial features, such as eyes and nose.[4] A study revealed that patients exhibited a decrease in social appearance anxiety following rhinoplasty surgery in comparison to their pre-surgery status.[5]

Body image dissatisfaction occurs when views of the body are considered negative, and body image represents the difference between an individual's actual and ideal body. Body image dissatisfaction can lead to negative physical and mental health consequences such as depression, anxiety, low self-esteem, and eating disorders.[6] Body image is one of the most critical psychological structures that can be effective in rhinoplasty. It has been shown that rhinoplasty surgery can improve individuals' body image while increasing obsessive thoughts and actions. Therefore, to avoid an irrelevant surgical plan, it is recommended to provide preoperative psychological counseling, examine the psychological state, and evaluate the person's expectations from the surgery with the necessary explanations.[7]

Self-esteem can be defined as knowing, accepting, and respecting oneself. The individual acknowledges their abilities and powers in this way.[8] Low self-esteem is a causal factor for depression, anxiety, eating disorders, high-risk behaviors, and social functioning.[9] A recent study found that mean self-esteem scores were lower in the aesthetic rhinoplasty group than in the functional rhinoplasty group. Additionally, it was found that there was a significant improvement in postoperative self-esteem scores in the aesthetic rhinoplasty group.[10]

Sociocultural pressures and body image dissatisfaction are associated with irregular eating habits.[11,12] Eating habits are personal and affected by several factors, such as social factors, stress, gender, and expectations.[13] For instance, females have more body dissatisfaction and eating disorders than men. Obese women are more likely to experience body image dissatisfaction and eating problems.[11] Eating disorders appear relatively common in individuals with body dysmorphic disorder.[14,15] It has been found that the frequency of undergoing rhinoplasty surgery is higher in individuals with anorexia, which is a body dysmorphic disorder.[15]

Considering the literature, this study aimed to compare the social appearance anxiety, self-esteem, eating behavior, and body perception of patients who applied to the Ear, Nose, and Throat (ENT) outpatient clinic for rhinoplasty and patients who were indicated for septoplasty. There are a limited number of studies in the literature evaluating eating behavior disorders in rhinoplasty patients. Therefore, the data obtained from this study will contribute to the literature.

MATERIAL AND METHOD

Patients and Data Acquisition

This cross-sectional study was conducted with adult females aged 19-65 who applied to

Ankara Akyurt State Hospital ENT outpatient clinic between January 2024 and March 2024. The study was conducted on 44 patients in the rhinoplasty group and 49 patients in the septoplasty group. Patients who wanted to have rhinoplasty due to aesthetic concerns were included in the rhinoplasty group, and patients who complained of difficulty breathing through the nose, septum deviation, and external nasal deformity were included in the septoplasty group. These deformities include dorsal hump, supratip nasal deformity, dorsal irregularities, and axis deviation. However, patients who did not want to undergo rhinoplasty despite having these deformities were included in the septoplasty group. The exclusion criteria of the study were: men, individuals under the age of 19 and over 65, individuals with eating behavior disorders, psychiatric diseases, antidepressant use, pregnancy and lactation, congenital anomalies, individuals applying for revision surgery, and individuals with a history of trauma that damaged their appearance.

The study was conducted by the Declaration of Helsinki and approved by the Ethics Committee at Gazi University (Code No:2024-54).

Social Appearance Anxiety Scale

The Social Appearance Anxiety Scale (SAAS) was developed by Hart et al. (2008) to measure individuals' social appearance concerns about how other people will evaluate their appearance.[16] A Turkish validity and reliability scale study was conducted by Doğan et al. in 2010.[17] It consists of 16 items, and has a one-dimensional, 5-point Likert type answer key of (1) Not at all Appropriate, (5) Completely Appropriate. Item 1 of the scale is coded in reverse. High scores obtained indicate high appearance anxiety. The Cronbach's alpha for the SAAS was 0.93.[16]

Rosenberg Self Esteem

Rosenberg's Self-Esteem Scale (ROE) was developed by Morris Rosenberg in 1965.[18] Turkish validity and reliability studies were conducted by Çuhadaroğlu in 1986 and the validity coefficient was found to be 0.71.[19] The scale consists of 63 multiple-choice questions and has twelve subcategories. In line with the purpose of the research, the first "ten" items of the scale were used to measure self-esteem. Statements are answered on a 4-point Likert scale as "very true," "true," "wrong," and "very wrong." Questions regarding positive self-assessment are scored from 3 to 0 on the scale's rating system, whereas statements that challenge negative self-evaluation are scored from 0 to 3. The total score range is 0 to 30. The scoring system classifies people as having "high" self-esteem when they score 25–30 points, "medium" self-esteem when they score 15–24, and "low" self-esteem when they score 0–14.[18]

Stunkard Scale

The Stunkard scale is a psychometric scale developed in 1983 to determine body dissatisfaction in males and females. The figured scale allows the individual to subjectively evaluate both genders' body shapes. This scale is a visible measure of how a person perceives their physical appearance. Each figure represents nine male and nine female schematic silhouettes, ranging from extreme thinness to extreme obesity. Participants are asked to choose the silhouette that best reflects their current and ideal body sizes. The body image dissatisfaction score (BI) is calculated by subtracting the score of the silhouette selected for the current body size from the chosen silhouette for the ideal body size. A high body dissatisfaction score indicates lower satisfaction with body size, while a low body dissatisfaction score indicates higher satisfaction.[20]

The Dutch Eating Behavior Questionnaire

The Dutch Eating Behavior Questionnaire (DEBQ) was used to evaluate the eating behaviors. This questionnaire was developed by Van Strein et al. in 1986.[13] Bozan performed Turkish validity and reliability tests in 2009.[21] The items in the survey are evaluated on a 5-point Likert scale (1: never, 2: rarely, 3: sometimes, 4: often, 5: very often). The test's total score is not evaluated; the three subscales are independently assessed.

Anthropometric Measurements and Eating Habits

The researchers measured the participants' body weight (kg) and height (cm). Body weight was measured with a portable measuring device, height was measured with a stadiometer in a vertical position, and the head was measured in the Frankfort plane.[22] BMI was calculated by dividing the body weight in meters by the square of the height (kg/m^2), considering the WHO's classification.[23]

To assess dietary habits, questions were asked about the frequency of main and snack meals, skipping main meals, meal regularity, and frequency of breakfast.

Statistical analysis

The data obtained from the study were analyzed using the I.B.M. Statistical Package for the Social Sciences (SPSS) version 24.0 statistical package program (Chicago, IL, USA). The suitability of the variables to normal distribution was determined by visual (histogram and probability graphs) and analytical methods (Shapiro-Wilk tests). The categorical data were represented as frequencies and percentages, while the quantitative data were given as mean± standard deviation (SD). Pearson's x^2 or Fisher's exact test was used for test frequency differences. Independent Samples t-test was used to compare two independent groups for crude means. Spearman or Pearson correlation analysis was used to assess the association between the variables. A p-value<0.05 was statistically significant.

Limitations

This study has some limitations. First, the cross-sectional design of this investigation limited the ability to identify causal relationships. Second, since this study included only females, the inclusion of different groups including other demographic characteristics, limits generalizability. Third, participants may not accurately report their levels of anxiety, self-esteem, eating behaviors, or body image due to the study's nature. Fourth, conducting the study at a single ENT outpatient clinic may limit the applicability of the results to other settings or geographic locations. Multi-center studies could enhance the external validity of the findings. For this reason, future studies should incorporate diverse demographic characteristics, including gender and BMI ranges, and utilize longitudinal and multi-center designs to enhance the generalizability and causal understanding of social appearance anxiety, eating behavior, self-esteem and other parameters.

RESULTS AND DISCUSSION

General characteristics of the individuals are given in Table 1. The education levels of individuals in the rhinoplasty group were lower than those in the septoplasty group (p=0.048).

Compared to the rhinoplasty group (50.0%), the septoplasty group (61.2%) had a higher percentage of working individuals (p=0.007).

Table 1. General characteristic of individuals

	Septoplasty group (n:49)	Rhinoplasty group (n:44)	
	x̄±SD or n (%)	x̄±SD or n (%)	p $^{\alpha,\beta}$
Age (year)	28.0±9.77	26.1±6.58	0.293$^{\alpha}$
Education status			
Middle/High School	20 (40.8)	27 (61.4)	**0.048$^{\beta}$**
University/Master	29 (59.2)	17 (38.6)	
Working status			
Working	30 (61.2)	22 (50.0)	**0.007$^{\beta}$**
Not working	5 (10.2)	16 (36.4)	
Student	14 (28.6)	6 (13.6)	
Marital status			
Married	21 (42.9)	17 (38.6)	0.679$^{\beta}$
Single	28 (57.1)	27 (61.4)	
BMI (kg/m^2)	23.2±3.76	22.4±3.05	0.269$^{\alpha}$
BMI classification			

Table 1. General characteristic of individuals. (Continued)

	Septoplasty group (n:49)	Rhinoplasty group (n:44)	
	x̄±SD or n (%)	x̄±SD or n (%)	p α, β
Underweight	5 (10.2)	3 (6.8)	0.303β
Normal	29 (59.2)	34 (77.3)	
Overweight	12 (24.5)	6 (13.6)	
Obese	3 (6.1)	1 (2.3)	

The statistically significant p values are shown in **bold.** α Independent sample t-test, β Pearson chi-square test

Table 2 shows individuals' social appearance anxiety, self-esteem, eating behavior, body image dissatisfaction, and nutritional habits. Compared to the septoplasty group, rhinoplasty patients' social appearance anxiety scores were higher, and self-esteem scores were lower (p<0.001). The self-esteem of the septoplasty group (55.1%) was significantly higher than that of the rhinoplasty group (6.8%) (p<0.001). No significant difference was found between the groups in body dissatisfaction and DEBQ scores (external eating, emotional eating, and restrained eating) (p>0.05).

Table 2. Individuals' SAAS, ROE, BI, DEBQ, and eating habits

	Septoplasty group (n:49)	Rhinoplasty group (n:44)	
	x̄±SD or n (%)	x̄±SD or n (%)	p α, β
Social appearance anxiety score (SAAS)	24.6±5.87	48.2±14.46	**<0.001** α
Rosenberg self-esteem score (ROE)	24.9±4.31	17.8±4.98	**<0.001** α
Low	1 (2.0)	11 (25.0)	**<0.001**β
Middle	21 (42.9)	30 (68.2)	
High	27 (55.1)	3 (6.8)	
Body image dissatisfaction (BI)	0.5±1.02	0.7±1.25	0.585 α
DEBQ			
Restrained eating	25.7±9.95	26.7±10.52	0.636 α
Emotional eating	31.9±17.52	28.3±14.04	0.283 α
External eating	31.8±9.55	31.4±7.79	0.811 α
Main meal frequency	2.4±0.50	2.4±0.57	0.692 α
Snack frequency	1.3±0.97	1.3±0.89	0.692 α
Total meal frequency	3.7±1.06	3.6±1.08	0.587 α
Meal regularity			
Yes	26 (53.1)	30 (68.2)	0.137 β
No	23 (46.9)	14 (31.8)	
Skipping main meal			
Yes	26 (53.1)	26 (59.1)	0.559 β
No	23 (46.9)	18 (40.9)	
Most frequently skipped meal			
Breakfast	13 (50.0)	12 (46.2)	0.489 β
Afternoon	10 (38.5)	13 (50.0)	
Evening	3 (11.5)	1 (3.8)	
Frequency of eating breakfast (times/week)	5.3±2.21	5.5±2.02	0.630 α

The statistically significant p values are shown in **bold.** α Independent sample t-test, β Pearson chi-square test

The relationship between SAAS, ROE, BI, DEBQ, age, and BMI in septoplasty patients is given in Table 3. A negative correlation between SAAS score and ROE was found (p=0.020). Stunkard body dissatisfaction was positively correlated with emotional eating, restrained eating, age, and BMI (p<0.05). Also, a significant positive correlation was observed between emotional eating, restrained eating, and BMI (p<0.05).

Table 3. Relationship between SAAS, ROE, BI, DEBQ, age and BMI in septoplasty patients

	1		2		3		4		5		6		7		8	
	r	p	r	p	r	p	r	p	r	p	r	p	r	p	r	p
1	-	-														
2	-0.331	**0.020**	-	-												
3	0.189	0.192	-0.100	0.494	-	-										

Table 3. Relationship between SAAS, ROE, BI, DEBQ, age and BMI in septoplasty patients. (Continued)

	1		2		3		4		5		6		7		8	
	r	p	r	p	r	p	r	p	r	p	r	p	r	p	r	p
4	-0.123	0.401	-0.013	0.930	0.411	**0.003**	-	-								
5	0.214	0.140	-0.038	0.796	0.462	**0.001**	0.090	0.538	-	-						
6	-0.081	0.581	0.052	0.720	0.050	0.732	0.304	**0.034**	- 0.034	0.819	-	-				
7	0.038	0.794	-0.275	0.056	0.347	**0.014**	0.077	0.597	0.195	0.180	- 0.179	0.219	-	-		
8	-0.031	0.832	-0.181	0.212	0.691	**<0.001**	0.474	**0.001**	0.336	**0.018**	0.058	0.694	0.506	**0.049**	-	-

1. SAAS (Social Appearance Anxiety Scale), 2. ROE (Rosenberg Self-Esteem Scale), 3. BI (Body image dissatisfaction), 4. DEBQ (Dutch Eating Behavior Questionnaire) Emotional Eating, 5. DEBQ Restrained Eating, 6. DEBQ External Eating, 7. Age, 8. BMI (Body mas index). The statistically significant p values are shown in **bold.**

Table 4 shows the correlation between SAAS, ROE, SBH, DEBQ, age, and BMI in the rhinoplasty group. A negative correlation was found between the SAAS score and ROE ($p<0.001$). A significant positive correlation was observed between Stunkard body dissatisfaction and restrained eating, age and BMI ($p<0.05$)

Table 4. Relationship between SAAS, ROE, BI, DEBQ, age and BMI in rhinoplasty patients

	1		2		3		4		5		6		7		8	
	r	p	r	p	r	p	r	p	r	p	r	p	r	p	r	p
1	-	-														
2	-0.579	**<0.001**	-	-												
3	0.019	0.904	0.165	0.286	-	-										
4	0.087	0.576	-0.291	0.055	0.078	0.616	-	-								
5	-0.059	0.706	0.058	0.711	0.469	**0.001**	0.050	0.745	-	-						
6	0.271	0.075	0.001	0.993	0.141	0.362	0.050	0.749	0.118	0.445	-	-				
7	-0.294	0.053	0.229	0.134	0.312	**0.039**	-0.005	0.976	0.276	0.070	-0.138	0.373	-	-		
8	-0.125	0.420	0.175	0.257	0.524	**0.032**	0.233	0.137	0.324	**0.032**	0.176	0.252	0.491	**0.001**	-	-

1. SAAS (Social Appearance Anxiety Scale), 2. ROE (Rosenberg Self-Esteem Scale), 3. BI (Body image dissatisfaction), 4. DEBQ (Dutch Eating Behavior Questionnaire) Emotional Eating, 5. DEBQ Restrained Eating, 6. DEBQ External Eating, 7. Age, 8. BMI (Body mas index). The statistically significant p values are shown in **bold.**

This study aimed to compare and evaluate the relationship between SAAS ROE, eating behavior, and body dissatisfaction in individuals who applied to the outpatient clinic for rhinoplasty and septoplasty.

Studies show that patients wanting esthetic/cosmetic rhinoplasty had a lower mean self-esteem score compared to those functional rhinoplasty or healthy control group.[10,24] Contrary to these, some studies found no significant difference between the self-esteem scores of patients who wanted to undergo rhinoplasty and the healthy control group.[25,26] In this study, similar to previous studies, self-esteem scores were lower in the rhinoplasty group.[10,24]

The face has a vital role in reflecting changes in the emotional state. Therefore, it affects the individual's communication with others, thus his productivity and acceptability in society.[3,24] In many patients who undergo rhinoplasty surgery, the improvement in the person's appearance can also significantly improve mental, emotional, and functional health.[3] It is stated that patients who have aesthetic rhinoplasty surgery experience social appearance anxiety.[27] Studies have found that the social appearance anxiety of aesthetic rhinoplasty patients is higher than that of the healthy control group.[24,25] Consistent with previous studies, the SAAS scores of rhinoplasty patients were higher than those of the septoplasty group in the current study. Additionally, in studies conducted, a significant negative correlation was observed between the ROE and social appearance anxiety in patients who wanted to undergo rhinoplasty.[24] Similar to the literature, this study showed a significant negative correlation between SAAS and self-esteem in both groups. However, this important

relationship was found to be stronger in the rhinoplasty patients (r=-0.579) compared to the septoplasty group (r=-0.331) ($p<0.05$).

High self-esteem is a potential factor moderating the negative relationship between BMI, body image, and fear of negative evaluation.[28] In this study, BMI was not associated with SAAS and ROE (Table 3, 4). It has also been emphasized in the literature that the relationship between BMI and self-esteem is complex and affected by many other factors.[29] The fact that most participants in both groups in this study (rhinoplasty: 77.3%, septoplasty: 59.2%) had normal BMI ranges may explain the lack of association with SAAS and ROE.

Body image dissatisfaction is the primary motivation for cosmetic surgery. While body image dissatisfaction may motivate the pursuit of cosmetic medical treatment, psychiatric disorders characterized by body image disturbances, such as body dysmorphic disorder and eating disorders, may be relatively common among these patients.[30] A study found that aesthetic rhinoplasty patients had higher body image dissatisfaction than the control group.[26] Unlike previous research, the current study found no significant difference between the septoplasty and rhinoplasty groups' body image dissatisfaction scores. The Stunkard scale was used because this study aimed to assess participants' eating behaviors. Since the BMI values and DEBQ scores of the groups in this study were similar, body dissatisfaction scores may have been parallel.

Disordered eating behaviors include binge eating and compulsive eating, dieting and restrained eating, or compensatory behaviors.[31] Eating disorders are characterized by severe body image dissatisfaction[32], and social appearance anxiety has also been suggested to be a risk factor for eating disorders.[33] Bearman et al. found that negative body image opinions are highly linked to eating disorders.[34] However, there was no relationship between social appearance anxiety and eating behaviors in this study.

There is limited data in the literature about the prevalence of eating disorders in patients who want to undergo plastic surgery. In a study evaluating the prevalence of eating disorders in patients undergoing plastic surgery, the frequency of rhinoplasty was found to be high in patients with anorexia nervosa.[35] Eating behavior (restrained, emotional, and external eating) was not associated with SAAS and self-esteem. However, BMI was positively correlated with restrained eating, and body image dissatisfaction in both groups (Table 3 and Table 4). Interestingly, there was a positive correlation between body image dissatisfaction and emotional eating (r=0.411, r=0.003), which is defined as eating in response to stressful, depressing, or anxious feelings rather than physical hunger signals in the septoplasty group and not in the rhinoplasty group. For emotional eaters, stress and emotional relief encourage food consumption after stressful situations.[36] On the other hand, job stress influences external and emotional eating behaviors [37] In this study, it is thought that the higher ratio of working status among septoplasty patients and, accordingly, the effect of work stress on emotional eating in these individuals affected the results. In a study by Levinson & Rodebaugh (2014), the participants with negative evaluation anxiety showed more food consumption, and their social appearance anxiety was high.[33] Therefore, in this study, it was thought that the rhinoplasty group with high social appearance anxiety and low self-esteem may use food as a coping mechanism to cope with distress and anxiety. However, no relationship was found between SAAS and DEBQ (Emotional, restrained, and external eating) scores in both groups. No study in the literature evaluates eating behavior in these patient groups, and many underlying mechanisms play an essential role in this relationship. Therefore, this study will shed light on future studies, and it is important to repeat these results in different populations and larger samples.

Patients who actively seek esthetic rhinoplasty are those who are also more likely to potentially suffer from body dysmorphia or

other mental illnesses that have negatively impacted their self-image.[2] Surgeons and psychologists can work together during this process to identify patients with psychological problems. Working together may be helpful in preoperative counseling to address underlying psychological factors and provide realistic expectations regarding surgical outcomes. [38] Therefore, it may be essential to evaluate patients' psychiatric conditions, body dysmorphia, or eating behavior disorder diagnosis in future studies.

CONCLUSION AND RECOMMENDATIONS

According to the results of this study, it was found that social appearance concerns were high, and self-esteem scores were lower in women who wanted to have aesthetic rhinoplasty. Regardless of the operation choice, a positive relationship was found between body image dissatisfaction and restrained eating and BMI. Psychological evaluation is crucial in aesthetic surgery patients because surgeons need to identify psychologically challenging people to provide the best potential outcome. So, it is preferable to get the help of psychologists.

REFERANCES

1. Herruer, J, Prins, J, van Heerbeek, N, Verhage-Damen, G, and Ingels, K. (2018). "Does self-consciousness of appearance influence postoperative satisfaction in rhinoplasty? ". Journal of Plastic, Reconstructive & Aesthetic Surgery, 71(1), 79-84.

2. Shauly, O, Calvert, J, Stevens, G, Rohrich, R, Villanueva, N, and Gould, D.J. "Assessment of Wellbeing and Anxiety-related Disorders in Those Seeking Rhinoplasty: A Crowdsourcing-based Study". *P*lastic and reconstructive surgery Global open, Apr 2020, 8(4), e2737. doi:10.1097/gox.0000000000002737

3. Brucoli, M, Baena, R.R.Y, Boffano, P, and Benech, A. (2019). "Psychological profiles in patients undergoing orthognathic surgery or rhinoplasty: a preoperative and preliminary comparison". Oral and maxillofacial surgery, 23, 179-186.

4. Yigman, F. and Inan, S. (2022). "Relationship Between The Beliefs On Social Appearance, Anxiety, And Intolerance Of Uncertainty In Rhinoplasty Patients Psychological Factors Associated With Rhinoplasty Satisfaction". Annals of Clinical and Analytical Medicine.

5. Eser, B. Ç. and İlhan, A. E. (2021). "Rinoplasti Hastalarının Kişisel Değişkenlere Bağlı Memnuniyetlerinin Değerlendirilmesi". İstanbul Gelişim Üniversitesi Sağlık Bilimleri Dergisi (14), 285-301.

6. Petrovics, P, Nagy, A, Sandor, B, Palfi, A, Szekeres, Z, Toth, K, & Szabados, E. (2021). "Examination of self-esteem, body image, eating attitudes and cardiorespiratory performance in adolescents". International Journal of Environmental Research and Public Health, 18(24), 13172.

7. Radman, M. and Pourhoseinali, L. (2022). "Effect of rhinoplasty on changing body images in candidates for surgery". J Family Med Prim Care, 11(9), 5535-5539. doi:10.4103/jfmpc.jfmpc_2116_21

8. McMullin, J. A., & Cairney, J. (2004). "Self-esteem and the intersection of age, class, and gender". Journal of aging studies, 18(1), 75-90.

9. McClure, A. C., Tanski, S. E., Kingsbury, J, Gerrard, M, and Sargent, J. D. (2010). "Characteristics associated with low self-esteem among US adolescents". Academic pediatrics, 10(4), 238-244. e232.

10. Chowdhury, S, Verma, S. & Debnath, T. (2022). "Self-esteem in rhinoplasty patients: A comparative study". Indian Journal of Otolaryngology and Head & Neck Surgery, 74(Suppl 2), 1571-1575.

11. McGuinness, S. & Taylor, J. E. (2016). "Understanding body image dissatisfaction and disordered eating in midlife adults". New Zealand Journal of Psychology (Online), 45(1), 4.

12. Thompson, J.K, van den Berg, P, Roehrig, M., Guarda, A. S. and Heinberg, L. J. (2004). "The sociocultural attitudes towards appearance scale-3 (SATAQ-3): development and validation". Int J Eat Disord, 35(3), 293-304. doi:10.1002/eat.10257

13. Van Strien, T, Frijters, J. E, Bergers, G. P. and Defares, P. B. (1986). "The Dutch Eating Behavior Questionnaire (DEBQ) for assessment of restrained, emotional, and external eating behavior". International journal of eating disorders, 5(2), 295-315.

14. Ruffolo, J. S, Phillips, K. A, Menard, W, Fay, C, and Weisberg, R. B. (2006). "Comorbidity of body dysmorphic disorder and eating disorders: severity of psychopathology and body image disturbance". Int J Eat Disord, 39(1), 11-19. doi:10.1002/eat.20219

15. Levinson, C. A, Rodebaugh, T. L, White, E. K, Menatti, A. R, Weeks, J. W, Iacovino, J. M. and Warren, C. S. (2013). "Social appearance anxiety, perfectionism, and fear of negative evaluation. Distinct or shared risk factors for social anxiety and eating disorders?". Appetite, 67, 125-133.

16. Hart, T. A, Flora, D. B, Palyo, S. A, Fresco, D. M, Holle, C. and Heimberg, R. G. (2008). "Development and examination of the social appearance anxiety scale". Assessment, 15(1), 48-59.

17. Doğan, T. (2010). "Sosyal Görünüş Kaygısı Ölçeği'nin (SGKÖ) Türkçe uyarlaması: geçerlik ve güvenirlik çalışması". Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 39(39), 151-159.

18. Rosenberg, M. (1965). "Rosenberg self-esteem scale. Journal of Religion and Health.

19. Çuhadaroğlu, F. (1986). Adolesanlarda benlik saygısı.Uzmanlık Tezi. Hacettepe Universitesi, Tıp Fakültesi, Ankara.

20. Aj, S. (1983). "Use of the Danish adoption resister for the study of obesity and thinness". Genetics of neurological and psychiatric disorders.

21. Bozan, N, Bas, M, Asci, F.H. (2011). "Psychometric properties of Turkish version of Dutch Eating Behaviour Questionnaire (DEBQ). A preliminary results". Appetite. 56(3):564-566.

22. Lohman,T. and Roche A. M. R "(1998). Anthropometric standardization reference manual. ed. *Champaign IL: Human Kinetics books*

23. World Health Organization (WHO). (2000). "Obesity: preventing and managing the global epidemic: report of a WHO consultation ". Erişim adresi: https://iris.who.int/handle/10665/4233 (Erişim tarihi: 01.07.2024).

24. Yildirim, Y. S. S., and Yildiz, S. (2024). "Investigation of social appearance anxiety and self-esteem in individuals planned for aesthetic rhinoplasty". Eur Rev Med Pharmacol Sci, 28(3), 1089-1094. doi:10.26355/eurrev_202402_35345

25. Kucur, C, Kuduban, O, Ozturk, A, Gozeler, M. S, Ozbay, I, Deveci, E, . . . Kaya, Z. (2016). "Psychological Evaluation of Patients Seeking Rhinoplasty". Eurasian J Med, 48(2), 102-106. doi:10.5152/eurasianjmed.2015.103

26. Gurok , M. G, Kılıç, F, Sağlam, S, Göçer-Gürok, N, Kuloğlu, M. M. and Yıldırım, A. M. (2019). "Patients without psychopathology applying for aesthetic rhinoplasty may display elevated harm avoidance and reduced self-directedness: a crosssectional, case–control study". Psychiatry and Clinical Psychopharmacology, 29, 715-721.

27. Cingi, C. and Eskiizmir, G. (2013). "Deviated nose attenuates the degree of patient satisfaction and quality of life in rhinoplasty: a prospective controlled study ". Clin Otolaryngol, 38(2), 136-141. doi:10.1111/coa.12099

28. Ahadzadeh, A. S, Rafik-Galea, S, Alavi, M., and Amini, M. (2018). "Relationship between body mass index, body image, and fear of negative evaluation: Moderating role of self-esteem ". Health Psychol Open, 5(1), 2055102918774251. doi:10.1177/2055102918774251

29. Krupa-Kotara, K, Markowski, J, Gdańska, A, Grajek, M, Działach, E., Szlachta, G., and Rozmiarek, M. (2023). "Global Self-Esteem, Body Composition, and Physical Activity in Polish University Students". Nutrients, 15(18). doi:10.3390/nu15183907

30. Sarwer DB, Crerand CE. "Body image and cosmetic medical treatments". *Body image*. 2004;1(1):99-111.

31. Cordero, C, Pulgaron, E.R, Marchante-Hoffman, A.N, Llabre, M. M., Perreira, K. M., Sotres-Alvarez, D., . . . and Delamater, A. M. (2022). "Body image and disordered eating behaviors in Hispanic/Latino youth: findings from the Hispanic community health study/study of Latino youth". Appetite, 175, 106079.

32. Coughlin, J. W, Schreyer, C. C, Sarwer, D. B, Heinberg, L. J, Redgrave, G. W, and Guarda, A. S. (2012). "Cosmetic surgery in inpatients with eating disorders: attitudes and experience". Body image, 9(1), 180-183. doi:10.1016/j.bodyim.2011.10.007

33. Levinson, C. A, Rodebaugh, T. L, White, E. K, Menatti, A. R, Weeks, J. W, Iacovino, J. M. and Warren, C. S. (2013). "Social appearance anxiety, perfectionism, and fear of negative evaluation. Distinct or shared risk factors for social anxiety and eating disorders? ". Appetite, 67, 125-133.

34. Oishi, S. and Kesebir, S. (2015). "Income inequality explains why economic growth does not always translate to an increase in happiness". Psychological science, 26(10), 1630-1638.

35. Zimmer, R, Methfessel, I, Heiss, L, Kovacs, L, and Papadopulos, N. A. (2022). "Eating disorders: A neglected group of mental disorders in patients requesting aesthetic surgery". Journal of Plastic, Reconstructive & Aesthetic Surgery, 75(2), 840-849.

36. Klatzkin, R. R, Nolan, L. J. and Kissileff, H. R. (2022). "Self-reported emotional eaters consume more food under stress if they experience heightened stress reactivity and emotional relief from stress upon eating". Physiology & behavior, 243, 113638.

37. Okumus, B, Chaulagain, S. and Giritlioglu, I. (2019). "Examining the impacts of job stress and job satisfaction on hotel employees' eating behavior". Journal of Hospitality Marketing & Management, 28(5), 558-575. doi:10.1080/19368623.2019.1532856

38. Naraghi, M. and Atari, M. (2015). "Comparison of patterns of psychopathology in aesthetic rhinoplasty patients versus functional rhinoplasty patients". Otolaryngology–Head and Neck Surgery, 152(2), 244-24

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The Effect of Finger Play on Pain and Anxiety During Peripheral Vascular Opening Attempts in Preschool Children: Randomized Controlled Study

Okul Öncesi Dönem Çocuklarında Periferik Damar Yolu Açma Girişimi Sırasında Uygulanan Parmak Oyununun Ağrı ve Anksiyeteye etkisi: Randomize Kontrollü Çalışma

Fatma KURUDİREK[1], Zeynep DEMİR İMAMOĞLU[2], Zülbiye DEMİR BARBAK[3]

ABSTRACT

Finger puppet play is an effective method that can be used to reduce pain and anxiety in children. Thanks to this method, nurses try to distract children and reduce their feelings of pain and anxiety. Our study was carried out in a randomized controlled manner to examine the effect of finger puppet play on pain and anxiety while establishing peripheral vascular access in preschool children who applied to the emergency department. The research population consisted of children aged 4-6 years who applied to the pediatric emergency department of a hospital in Türkiye between 25 May and 25 June 2022. The sample consisted of 97 children (49 in the control group, 48 in the finger puppet group) who met the research criteria between these dates. Stratification and block randomization methods were used to determine the experimental and control groups. The data were collected with the Questionnaire Form developed by the researcher, Child Fear and Anxiety Inventory (CFAI), and Wong-Baker Facial Expression Rating Scale (WB-FAS). During the application, the finger puppet game was shown to the experimental group. During the procedure, the child's pain and anxiety were evaluated by the child, the parent, and the researcher. It was determined that the children in the finger puppet play group experienced significantly less pain and anxiety than the children in the control group ($p<0.05$). According to the findings of the study, finger puppet application during peripheral vascular access to children aged 4-6 is effective in reducing pain and anxiety.

Keywords: Anxieyt, Child, Finger Puppet, Pain, Vasculer Access.

ÖZ

Parmak kukla oyunu, çocuklarda ağrı ve anksiyeteyi azaltmak için kullanılabilecek etkili bir yöntemdir. Hemşireler bu yöntem sayesinde çocukların dikkatini dağıtarak, ağrı ve anksiyete hislerini azaltmaya çalışırlar. Çalışmamız acil servise başvuran okul öncesi dönem çocuklarına periferik damar yolu açılırken parmak kukla oyununun ağrı ve anksiyete üzerine etkisini incelemek amacıyla randomize kontrollü olarak yürütüldü. Araştırma evrenini, Türkiye'de bir hastanenin çocuk acil servisine 25 Mayıs-25 Haziran 2022 tarihleri arasında başvuran 4-6 yaş arası çocuklar oluşturdu. Örneklemini ise bu tarihler arasında araştırma kriterlerini karşılayan 97 çocuk (49 kontrol grubu, parmak kuklası grubunda 48) oluşturdu. Deney ve kontrol gruplarının belirlenmesinde tabakalama ve blok randomizasyon yöntemleri kullanıldı. Veriler araştırmacı tarafından geliştirilen Anket Formu, Çocuk Korku ve Anksiyete Envanteri (ÇKAE) ve Wong-Baker Yüz İfadesi Derecelendirme Ölçeği (WB-YİDÖ) ile toplandı. Uygulama sırasında deney grubuna parmak kukla oyunu gösterildi. İşlem sırasında çocuğun ağrı ve anksiyetesi çocuk, ebeveyn ve araştırmacı tarafından değerlendirildi. Parmak kukla oyunu grubundaki çocukların kontrol grubundaki çocuklara göre anlamlı derecede daha az ağrı ve anksiyete yaşadıkları saptandı ($p<0,05$). Araştırmada elde edilen bulgulara göre 4-6 yaş grubu çocuklara periferik damar yolu açılması sırasında parmak kukla uygulanması ağrı ve anksiyeteyi azaltmada etkilidir.

Anahtar Kelimeler: Ağrı, Anksiyete, Çocuk, Damar Yolu, Parmak Kukla.

Ethical approval was obtained from Gümüşhane University Research Ethics Committee (Approval number: 2022/03). This study was accepted with the number E-95674917-108.99-92836.

[1] Dr.Öğr. Üyesi, Fatma KURUDİREK, Nursing, Atatürk University Department of Child Health and Nursing, fatmasaban25@hotmail.com, ORCID : 0000-0002-5829-2400
[2] Öğr. Gör., Zeynep DEMİR İMAMOĞLU, Nursing, Gumushane University, zeynep@gumushane.edu.tr, ORCID: 0000-0002-4586-7455.
[3] Öğr. Gör., Zülbiye DEMİR BARBAK, Nursing, Atatürk University Department of Child Health and Nursing , demirzulbiye25@hotmail.com, ORCID: 0000-0002-8344-2204.

İletişim / Corresponding Author: Fatma KURUDİREK
e-posta/e-mail: fatmasaban25@hotmail.com

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INTRODUCTION

Needle procedures, such as peripheral vascular access (PVA) and blood collection, are the most common painful procedures used on hospitalised children.[1] PVA is one of the most common intravenous (IV) procedures in paediatric emergency departments and is a serious source of anxiety for children and their families.[2-5] These procedures, which cause anxiety as well as pain, may adversely affect the interaction between the child and the health personnel, create psychological trauma in the child, and make it difficult to comply with the treatment.[2,6]

Appropriate pain control must be provided to improve patient care. Pharmacological and non-pharmacological methods are used to provide pain control in intravenous interventions such as peripheral vascular access in pediatric emergency services.[4] Therapeutic play has recently been used as a non-pharmacological method. Therapeutic play is a type of play applied by a trained professional according to the child's age to eliminate the fear and anxiety that result from the child having an unfamiliar experience.[7] Puppets are among the therapeutic play materials used as a play activity for children in the hospital setting.[8,9] They contribute to the emotional, social and personal development of children and provide an opportunity for them to express their feelings freely.[10] By using puppets, nurses can establish healthy relationships with children and understand their feelings during painful medical procedures.[7,11] A research of children diagnosed with cancer reported that puppet play helped their fight against the disease by allowing them to express their feelings and thoughts.[12]

Four- to six-year-old children mostly play with hand and finger puppets. Thanks to finger puppets, children express their feelings with the happiness of putting the puppets on their fingers, feeling safe and secure.[13–15]A research conducted to examine the effect of finger puppet play on the relief of postoperative pain in children showed that it was effective.[9] A similar research found that finger puppet play reduced children's fear of surgery.[13]

There is a need for randomised controlled studies examining the effect of finger puppet play on pain and anxiety during intravenous procedures in preschool-age children. In the study, it is thought that puppet play applied may also be effective during intravenous intervention. This research examined the effect of finger puppet play during attempts at peripheral vascular access for preschool-aged children in the emergency room.

Hypothesis of the research

The hypothesis of the research were as follows:

H_1. Finger puppet play applied during the attempt to open a peripheral vascular access in the paediatric emergency room reduces the pain level of children.

H_2. Finger puppet play applied during peripheral vascular access in the paediatric emergency service reduces children's anxiety level.

MATERIAL AND METHOD

Design

This study is a randomised controlled experimental research.

Setting and Sample

The research sample consisted of children who applied to the Emergency Paediatric Service of the University Health Research and Application Hospital and diagnosed with PVA between 25 May and 25 June 2022. Ninety-seven children met the research criteria. Verbal consent was obtained from the children participating in the study, and written consent was obtained from their families. To estimate the sample size, a power analysis was performed before the start of the research, and it was found that the research should be performed with at least 62 children to obtain 80% power at the 0.05 significance level and

95% confidence interval. As a result of this research, it was planned to have a total of 100 children, 50 in the control group and 50 in the experimental group; however, the control group consisted of 49 children and the experimental group of 48 for reasons such as an inability to open a vascular access at once or the separation of the mother or the child from the research . To calculate the adequacy of the sample size, a post hoc power analysis was performed at the end of the research (n1=49, Mean1=5.67, SD=2.14; n2=48, Mean2=2.48; SD=2.12). According to the power analysis, the Cohen's d effect size is 1.49, with a 95% confidence interval and a significance level of 0.05.

The inclusion criteria were as follows: having no vision, hearing, mental and neurological impairments, aged 4–6 years, no chronic disease, not hospitalized, no history of use of narcotic substances, tranquilizers and analgesia twenty-four hours before the admission and no febrile illness at the time of admission. Verbal consent was obtained from the children participating in the study and their families. Written consent was obtained from their families

Data Collection Instruments

Data were collected using three questionnaires. These included a researcher-developed demographic questionnaire, the Child Fear and Anxiety Inventory (CFAI), and the Wong-Baker Facial Expression Rating Scale (WB-FAS).

Demographic Questionnaire

The questionnaire prepared by the researcher consisted of 10 questions aiming to reveal the characteristics of the child and their families (age, income status, gender, social security status, family age and education level, fear of interference and family type).

Child Fear and Anxiety Inventory

In 2011, McMurtry et al.'s scale was created to measure children's fear and anxiety levels.[16] There are five facial expressions in the scale between 0 and 4 points. The child is asked to choose one of these facial expressions. This scale can be applied by the child, families and researcher to measure anxiety and fear before and during the procedure. The value of '0' in the scale indicates 'no fear and anxiety' and a value of '4' indicates 'highest fear and anxiety'. Evaluation of the scale is as follows:

- '0' → 'neutral expression (without anxiety)'
- '1' → 'little fear (little anxiety)'
- '2' → 'some fear (some anxiety)'
- '3' → 'more fear (more anxiety)'
- '4' → 'highest possible fear (severe anxiety)'.

Wong-Baker Rating Scale for Facial Expressions

This scale was developed by Wong and Baker in 1981 and revised in 1983. The scale is used to measure pain in children aged 3-18 years. There are six faces on this scale, from left to right and from zero to five, representing progressively increasing pain intensity. The rightmost face represents the tearful face, which indicates the most severe pain, while the leftmost face represents the smiling face, which indicates a painless state. Six facial expressions from left to right are scored between 0-5 points (0 point = very happy/no pain, 5 points = indicates the most severe pain).

As the score obtained from the scale increases, pain increases, and as the score decreases, pain decreases. The child is asked to choose the face that best reflects her feelings. While applying the scale to the child, it is explained that each face belongs to a person; There are sad faces that feel a little or more pain on the scale, and happy faces that feel no pain at all.[17,18]

Intervention Tool Used in the Research

Child Finger Puppets

The researcher used finger puppets as an intervention tool. Different finger puppets were made for each finger. The puppets are visually striking, colourful and made of felt as they can be washed if desired, thus minimizing the risk of infection. The puppets

were attached to five of the researcher's fingers, starting just before the PVA procedure. During the procedure, the child sings songs in accordance with the child's age, which attracts the child's attention. The finger game songs were chosen by the child development specialist in accordance with the age of the child. Also, the researcher received training from a child development specialist to use finger puppetry.

Ethical Approach

Ethical approval was obtained from the necessary institutions to conduct the research. The parents and children participating in the research were informed, and verbal consent was obtained from the children and written consent was obtained from the families. Those who accepted the research were informed that they could withdraw from the research at any time and their information would be kept confidential.

Data Collection Procedures

Data were collected from children who came to the paediatric emergency department between 25 May and 25 June 2022. The researcher observed three days in the emergency room before collecting the data. An introductory questionnaire was filled out by the researcher face-to-face interview with the children and families who agreed to the research criteria and accepted the research. Stratification and block randomization methods were used in the assignment of the experimental and control groups. When the literature is examined, it has been revealed that fear of interventional procedures and gender are among the factors affecting the pain and anxiety experienced by children during interventional procedures.[19–21] Based on this information, the variables of gender and fear of interference were used in this research in the stratification of children. Randomization with blocks was applied, stratified as male and female for the gender variable and as afraid and not afraid for the variable of fear of the PVA procedure. In the research, 50 children were included in each of the research groups by ensuring that the layers were repeated five times ($2 \times 2 \times 5$). The closed envelope method was used to prevent bias in the assignment of stratified children to the experimental and control groups. To prevent a child in one group from being affected by the procedure applied to the other group in the research, the data from the other group were collected after the data of one group were completed. The data collection order of the groups was determined using the closed envelope method. The researcher introduced the measurement tools (CFAI and WB-FAS) to be used by parents and children. The process took five minutes.

All research was carried out by the same paediatric nurse who had five years of experience in the field to reduce the errors caused by the nurse during the procedure. In the research, there was a condition in which the opening vascular access was provided at once. Vascular access that could not be opened in one turn was not included in the research.

Control Group (n=49)

Before the PVA procedure, the child in the control group was scored by the parent and researcher on the CFAI and WB-FAS. The nurse came to the intervention room with her supplies for PVA procedure. Vascular access was established according to the routine practice of the clinic. After the procedure, the children, parents and researcher filled out the CFAI and WB-FAS.

Experimental Group (n=48)

Before the PVA procedure, the child was scored by the parent and researcher on the CFAI and WB-FAS. The nurse came to the intervention room with her materials for the PVA procedure. The researcher put finger puppets on their fingers and sang songs according to the characteristics of the finger puppets to attract the attention of the child. After the procedure, the children completed the CFAI and WB-FAS with their parents and the researcher.

Data Analysis

The data were evaluated in the computer environment using the Statistical Package for Social Sciences (SPSS) 22.0 package programme. Analysis of variance, mean,

percentage distributions, chi-square test, standard deviation and t-test for independent groups were used in the analysis of the data. The researcher's findings were evaluated at $p<0.05$ significance level and 95% confidence interval.

Limitations

The limitations of this research are as follows: Since the research was conducted in only one public hospital in Türkiye, the results cannot be generalized to other Turkish children who had peripheral vascular access in other pediatric emergency departments.

RESULTS AND DICCUSSION

Key participant features

Table 1. Comparison of the Groups According to the Descriptive Characteristics of the Children

Features	Control Group (n=49)		Experimental Group (n=48)		Test and p
	n	%	n	%	
Age (Mean±SD*)	4.63±0.80		4.91±0.84		t=1.690 p=0.94
Gender					
Girl	22	44.9	13	27.1	χ2=3.337 p=0.68
Male	27	55.1	35	72.9	
Fear of interference					
Afraid	35	71.5	39	81.2	χ2=1.293 p=0.255
Not afraid	14	28.5	9	18.8	
Total	**49**	**100.0**	**48**	**100.0**	

**Mean±Standard Deviation*

In this research, age (t=1.690, p=0.94), gender (χ2=3.337, p=0.68) and fear of intervention (χ2=1.293, p=0.255, Table 1) of the children were recorded in the control and experimental groups. It was found that the two groups were similar to each other according to the descriptive characteristics of the children between the control and experimental groups (p>0.05, Table 1).

Table 2. Comparison of Groups According to Families' Descriptive Characteristics

Features	Control Group (n=49)		Experimental Group (n=48)		Test and p
	n	%	n	%	
Family type					
Nuclear family	38	77.6	41	85.4	χ2=0.993 p=0.319
Extended family	11	22.4	7	14.6	
Table 2. (Continued)					
Mother education status					
İlliterate	7	14.3	0	00.0	
Primary school	13	26.5	16	33.3	χ2=8.449 p=0.133
Middle school/ High school	21	42.9	20	41.7	
University	8	16.3	12	25.0	
Father's education					
İlliterate	6	12.3	0	00.0	
Primary school	12	24.5	8	16.7	
Middle school/ High school	23	46.9	23	47.9	χ2=12.113 p=0.33
University	8	16.3	17	35.4	
Social Security					
Yes	43	87.7	47	97.9	χ2=3.739 p=0.053
No	6	12.3	1	02.1	
Income status					
High	8	16.3	15	31.2	χ2=3.505 p=0.173
Middle	35	71.4	30	62.5	
Poor	6	12.3	3	06.3	
Total	**49**	**100.0**	**48**	**100.0**	

In Table 2, the educational status of the mother (χ2=8.449, p=0.133), father's education level (χ2=12.113, p=0.33), social

security ($\chi2$=3.739, p=0.053), family type ($\chi2$=0.993 belonging to a family, p=0.319) and income status ($\chi2$=3.505, p=0.173) are given. The demographics of the control and experimental groups were similar to each other; there is no statistically significant difference between them (p>0.05, Table 2).

Anxiety and pain levels before the procedure

Table 3. Comparison of Children's Preprocedural CFAI and WB-FAS Mean Scores

Evaluation	Control Group (n=49)	Experimental Group (n=48)	Test and p
	Mean±SD*	Mean±SD*	
CFAI			
Child	2.73±1.07	2.37±0.78	t=1.875 p=0.063
Parent	1.65±0.90	1.62±0.70	t=0.171 p=0.865
Researcher	1.95±1.77	1.93±0.75	t=1.093 p=0.277
Test and p	F:0.785 p:0.425	F:0.796 p:0.464	
WB-FAS			
Child	2.08±0.91	2.10±0.86	t=1.179 p=0.268
Parent	1.96±0.83	1.89±0.92	t=0.416 p=0.614
Researcher	1.88±0.78	1.91±0.72	t=0.317 p=0.793
Test and p	F:0.838 p:0.394	F:0.865 p:0.358	

**Mean±Standard Deviation*

Pre-procedural CFAI and WB-FAS mean scores were compared between the groups by the child, parent and researcher. No difference was found between the control and experimental groups by any of the three evaluators. In the control and experimental groups, the pre-procedural CFAI and WB-FAS scores were similar. In addition, it was revealed that the mean score of the CFAI and WB-FAS scales was similar among the in-group evaluators (child, parent, researcher) before the procedure (p>0.05, Table 3).

Finger game puppets for pain reduction

Table 4. Comparison of Children's Mean Order of Procedure WB-FAS Scores

Evaluation	Control Group (n = 49)	Experimental Group (n=48)	Test and p
	Mean±SD*	Mean±SD*	
Child	3.06±0.92	2.14±0.77	t=5.297 p = **0.000**
Parent	1.83±0.77	1.43±0.71	t=2.644 p = **0.000**
Researcher	2.26±0.81	1.37±0.89	t=5.152 p = **0.000**
Test and p	F:0.742 p:0.480	F:0.768 p:0.475	

**Mean±Standard Deviation*

WB-FAS score averages were repeated for the child (t=5.297, p=0.000), parent (t=2.644, p=0.000) and researcher (t=5.152, p=0.000, Table 4) during the control and experimental groups attempting PVA procedure. There was a statistically significant difference between the groups by all three evaluators (p<0.05). According to these results, finger puppetry was found to reduce pain. In addition, ıt was revealed that the mean score of the WB-FAS scale was similar between the in-group evaluators (child, parent, researcher) during the procedure (p>0.05, Table 4).

Finger puppet play reduces anxiety

Table 5. Comparison of Children's Mean Order of Procedure CFAI Scores

Evaluation	Control Group (n=49)	Experimental Group (n=48)	Test and p
	Mean±SD*	Mean±SD*	
Child	2.28±0.79	1.64±0.63	t=6.019 p=**0.000**
Parent	1.55±1.52	1.14±0.58	t=1.732 p=**0.008**
Researcher	1.69±0.82	1.12±0.86	t=3.319 p=**0.001**
Test and p	F:0.865 p:0.346	F:0.814 p:0.378	

**Mean±Standard Deviation*

In the research, the level of anxiety experienced by the children during the PVA procedure was re-evaluated by the children (t=6.019, p=0.000), their parents (t=1.732, p=0.008) and the researcher (t=3.319, p=0.001, Table 5) using the CFAI. A statistically significant difference was found

between the control and experimental groups. According to this research, finger puppetry reduces anxiety in children. ($p<0.05$, Table 5). In addition, ıt was also revealed that the mean score of the CFAI scale was similar between the in-group evaluators (child, parent, researcher) during the procedure ($p>0.05$, Table 5).

In this research, the effect of finger puppet play on pain and anxiety in children during the attempt for PVA procedure in the pediatric emergency service was examined and the results of the research were interpreted and discussed by the researcher in line with the relevant literature.

The control and experimental groups were compared according to the introductory characteristics of the children (gender, average age, fear of the procedure) and their families (parental education level, family type, social security status, income status) and it was found that the groups were similar in terms of the variables listed. The similarity of the groups according to these variables has the potential to affect children's pain perceptions and response levels; it is important in terms of showing the effect of the finger puppet game applied during the PVA procedure on the pain and anxiety level of children.

In this research, the level of pain and anxiety was evaluated by the child, parent and researcher before the PVA procedure. As a result of the evaluation, no difference was found between the control and experimental groups. Both groups experienced pain and anxiety similarly. The fact that the pre-procedure groups had similar levels of pain and anxiety is an important result for measuring the effectiveness of this finger puppet game.

In this research, the pain point averages of the finger puppet game applied during the PVA procedure in the pediatric emergency service were evaluated by the child, parent and researcher. The mean child pain scores of the experimental group were found to be significantly lower than those of the control group. This result supports the H_1 hypothesis that 'finger puppet play applied during peripheral vascular access attempt in the pediatric emergency service reduces the pain level of children." The results of this research support similar studies in the literature. Puppets were shown to children aged 7–11 by Suzan et al. during circumcision surgery. It was found that it reduced the pain that occurred during and after circumcision in the experimental group in which the puppet show was performed.[22] Kurt and Seval found that finger puppet play reduced postoperative pain in 90 children aged 1–5 years who had undergone surgery.[9] In another research, it was reported that puppet shows performed for children with peripheral vascular access reduced pain.[23] In studies conducted on children of different age groups, therapeutic games applied in painful procedures have been found to be effective in reducing the child's pain.[24,25]

Anxiety levels were evaluated by the child, parent and researcher during the PVA procedure. As a result of the evaluation, the anxiety level of the control group was found to be higher than that of the experimental group. These results support the H_2 hypothesis that 'finger puppet play applied during peripheral vascular access in the pediatric emergency service reduces the anxiety level of children'. The results of previous studies are like ours. In a research conducted to examine the anxiety levels of children who had undergone surgery, it was determined that puppet play and therapeutic play groups experienced less anxiety than the control group.[26] In the research conducted by Manalu et al., a difference was found between the level of anxiety before and after the blood transfusion of the hand puppet game played during the blood transfusion of thalassemia patients aged 3–6. Anxiety levels were found to be lower in the puppet play group.[27] In other studies, it was found that distraction applied during the peripheral vascular access procedure in pediatric emergency services reduces the level of anxiety in children.[28–30]

In this study found that finger puppet play applied during peripheral vascular access to children in the pediatric emergency service reduced the child's pain and anxiety levels. The pain scores of the children in the

intervention group were significantly lower than those in the control group. Similarly, anxiety levels were also found to be low. Based on these results, we conclude that finger puppet play reduces pain and anxiety.

CONCLUSION AND RECOMMENDATIONS

The results of this research showed that the finger puppet game, which was applied during the opening of vascular access in the pediatric emergency service, was effective in relieving the pain and anxiety of preschool children. The findings of this research suggest that it could also be tested in other fields, such as pediatrics.

Randomized controlled studies can be conducted in the future with different age groups and different intravenous applications, such as blood collection. Since emergency nurses work hard, they can get help from a child development specialist for finger puppet play during the peripheral vascular access.

It will be possible to make finger puppet play routine in children aged 4–6 years who have vascular access in pediatric emergencies. Due to the positive results, pilot tests are warranted as complementary therapy in nursing, especially in pediatrics and other areas. Nurses can be trained in finger puppet play.

REFERENCES

1. Walther-Larsen, S, Pedersen, M.T, Friis, S.M, Aagaard, G.B, Rømsing, J, Jeppesen, E.M. and Friedrichsdorf, S.J. (2017). "Pain Prevalence in Hospitalized Children: A Prospective Cross-Sectional Survey in Four Danish University Hospitals". Acta Anaesthesiologica Scandinavica, 61 (3), 328-337. https://doi.org/10.1111/AAS.12846

2. Friedrichsdorf, S.J, Postier, A, Eull, D, Weidner, C, Foster, L, Gilbert, M. and Campbell, F. (2015). "Pain Outcomes in a US Children's Hospital: A Prospective Cross-Sectional Survey". Hospital pediatrics, 5 (1), 18-26. https://doi.org/10.1542/HPEDS.2014-0084

3. Shomaker, K, Dutton, S. and Mark, M. (2015). "Pain Prevalence and Treatment Patterns in a US Children's Hospital". Hospital Pediatrics, 5 (7), 363-370. https://doi.org/10.1542/HPEDS.2014-0195

4. Lee, H.N, Bae, W, Park, J.W, Jung, J.Y, Hwang, S, Kim, D.K. and Kwak, Y.H. (2021). "Virtual Reality Environment Using a Dome Screen for Procedural Pain in Young Children During Intravenous Placement: A Pilot Randomized Controlled Trial". PloS One, 16 (8), e0256489. https://doi.org/10.1371/JOURNAL.PONE.0256489

5. Eldridge, C. and Kennedy, R. (2010). "Nonpharmacologic Techniques for Distress Reduction During Emergency Medical Care: A Review". Clinical Pediatric Emergency Medicine, 11 (4), 244-250. https://doi.org/10.1016/J.CPEM.2010.09.001

6. Crowley, M.A, Storer, A, Heaton, K, Naccarato, M.K, Proehl, J.A, Moretz, J.D. and Li, S. (2011). "Emergency Nursing Resource: Needle-Related Procedural Pain in Pediatric Patients in the Emergency Department". Journal of Emergency Nursing, 37 (3), 246-251. https://doi.org/10.1016/J.JEN.2011.02.013

7. Silva, S.G.T.D, Santos, M.A, Floriano, C.M.D.F, Damião, E.B.C, Campos, F.V.D. and Rossato, L.M. (2017). "Influence of Therapeutic Play on the Anxiety of Hospitalized School-age Children: Clinical Trial". Revista Brasileira de Enfermagem, 70 (6), 1244-1249. https://doi.org/10.1590/0034-7167-2016-0353

8. Azadimanesh, P, Hosseinkhanzadeh, A, Hakim-javadi, M. and Vatankhah, M. (2017). "Effect of Puppet Play therapy on Aggression of Children with ADHD". Journal of Urmia University of Medical Scinces, 28 (2), 83-90.

9. Kurt, A. and Seval, M. (2021). "The Effect of Finger Puppets on Postoperative Pain in Children: A Randomized Controlled Trial". Clinical and Experimental Health Sciences, 11 (1), 113-118. https://doi.org/10.33808/clinexphealthsci.713672

10. Bentley, L. (2005). Puppets at Large: Puppets as Partners in Learning and Teaching in the Early Years. Positive Press Ltd. 61.

11. Committee on Hospital Care and Child Life Council. (2014). "Child Life Services". Pediatrics, 133 (5), e1471-e1478. https://doi.org/10.1542/PEDS.2014-0556

12. Sposito, A.M.P, de Montigny, F, Sparapani, V.C, Lima R.A.G, Silva-Rodrigues, F.M, Pfeifer, L.L. and Nascimento, L.C. (2016). "Puppets as a Strategy for Communication with Brazilian Children with Cancer". Nursing and Health Sciences, 18 (1), 30-37. https://doi.org/10.1111/NHS.12222

13. Akgün Kostak, M, Kutman, G. and Semerci, R. (2021). "The Effectiveness of Finger Puppet Play in Reducing Fear of Surgery in Children Undergoing Elective Surgery: A Randomised Controlled Trial". Collegian, 28 (4), 415-421. https://doi.org/10.1016/J.COLEGN.2020.10.003

14. Aydoğdu, F. ve Ulaş, A.H. (2017). "Bütünleştirilmiş Kukla ve Drama Etkinliğinin Okul Öncesi Eğitime Devam Eden Çocukların Sosyal DuygusaL Gelişimine Etkisi". Akademik Bakış Uluslararası Hakemli Sosyal Bilimler Dergisi, 59, 346-354.

15. Korosec, H. (2013). "Evaluating Study of Using Puppets as a Teaching Medium in Slovenian Schools". Standard Journal Abbreviation, 62 (4), 495-520.

16. McMurtry, C.M, Noel, M, Chambers, C.T. and McGrath, P.J. (2011). "Children's Fear During Procedural Pain: Preliminary Investigation of the Children's Fear Scale". Health Psychology, 30 (6), 780-788. https://doi.org/10.1037/a0024817

17. Shields, B.J, Palermo, T.M, Powers, J.D, Grewe, S.D. and Smith, G.A. (2003). "Predictors of a Child's Ability to Use

a Visual Analogue Scale". Child: Care, Health and Development, 29 (4), 281-290. https://doi.org/10.1046/j.1365-2214.2003.00343.x

18. Wong, D.L. and Baker, C.M. (1988). "Pain in Children: Comparison of Assessment Scales". Pediatric Nursing, 14(1):9-17.

19. Costello, E.J, Egger, H.L, Angold, A. (2005). "The Developmental Epidemiology of Anxiety Disorders: Phenomenology, Prevalence, and Comorbidity". Child and Adolescent Psychiatric Clinics of North America, 14 (4), 631-648. https://doi.org/10.1016/j.chc.2005.06.003

20. Ball, J.W, Bindler, R.C, Bindler, R.M. and Cowen, K.J. (2014). "Child Health Nursing: Partnering with Children and Families". Pearson Prentice Hall.

21. Bruce, E. (2009). "A Bio-psycho-social Phenomenon". In: Twycross, A, Dowden, S.J, Bruce, E, ed. Managing Pain in Children. Blackwell Publishing Ltd, 29-38.

22. Suzan, Ö,K, Şahin, Ö.Ö. and Baran, Ö. (2020). "Effect of Puppet Show on Children's Anxiety and Pain Levels During the Circumcision Operation: A randomized controlled trial". The Journal of Pediatric Urology, 16 (4), 490.e1-490.e8. https://doi.org/10.1016/J.JPUROL.2020.06.016

23. Thompson, V. (1994). "An IV Therapy Teaching Tool for Children". Pediatric Nursing, 20 (4), 351-355.

24. Díaz-Rodríguez, M, Alcántara-Rubio, L, Aguilar-García, D, Pérez-Muñoz, C, Carretero-Bravo, J. and Puertas-Cristóbal, E. (2021). "The Effect of Play on Pain and Anxiety in Children in the Field of Nursing: A Systematic Review". The Journal of Pediatric Nursing: Nursing Care of Children and Families, 61, 15-22. https://doi.org/10.1016/J.PEDN.2021.02.022

25. Kapkın, G, Manav, G. and Muslu, G.K. (2020). "Effect of Therapeutic Play Methods on Hospitalized Children in Turkey: A Systematic Review". Erciyes Medical Journal, 42 (2), 127-131. https://doi.org/10.14744/etd.2019.94940

26. Dehghan, Z, Reyhani, T, Mohammadpour, V, Aemmi, S.Z, Shojaeian, R, Nekah, S.M.A. (2017). "The Effectiveness of Dramatic Puppet and Therapeutic Play in Anxiety Reduction in Children Undergoing Surgery: A Randomized Clinical Trial". The Iranian Red Crescent Medical Journal, 19 (3), e41178. https://doi.org/10.5812/IRCMJ.41178

27. Octovia Manalu, L, Rustandi, B. and Somantri B. (2021). "Effect of Puppet Play Therapy on Anxiety in Preschoolers with Thalassemia at the Thalassemia Polyclinic at Al-Ihsan Baleendah Hospital, Bandung Regency". KnE Life Sciences, 758-769. https://doi.org/10.18502/KLS.V6I1.8752

28. Goldman, R.D. and Behboudi, A. (2021). "Virtual Reality for Intravenous Placement in the Emergency Department-A Randomized Controlled Trial". European Journal of Pediatrics. 180 (3), 725-731. https://doi.org/ 10.1007/s00431-020-03771-9

29. Ali, S, Manaloor, R, Ma, K, Sivakumar, M, Beran, T, Scott, S.D, Vandermeer, B, Beirnes, N, Graham, T.A.D, Curtis, S, Jou, H. and Hartling, L. (2021). "A Randomized Trial of Robot-Based Distraction to Reduce Children's Distress and Pain During Intravenous Insertion in the Emergency Department". Canadian Journal of Emergency Medicine, 23 (1), 85-93. https://doi.org/10.1007/s43678-020-00023-5.

30. Chen, Y.J, Cheng, S.F, Lee, P.C, Lai, C.H, Hou, I.C. and Chen, C.W. (2020). "Distraction Using Virtual Reality for Children During Intravenous Injections in an Emergency Department: A Randomised Trial". Journal of Clinical Nursing, 29 (3-4), 503-510. https://doi.org/10.1111/jocn.15088

Postoperative Hypothermia Control: Effect of Electric and Woolen Blanket

Ameliyat Sonrası Hipotermi Kontrolü: Elektrikli ve Yün Battaniye Etkisi

Esra ERTEMÜR[1], Sevilay ŞENOL ÇELİK[2], Fethiye ERDİL[3]

ABSTRACT

Postoperative hypothermia is very common in elderly patients. It causes severe surgical complications resulting in depletion of reserves in total knee arthroplasty (TKA) patients. Normothermia should, therefore, be maintained in those patients. Purpose was to determine the effect of using both electric and woolen blankets on the management of postoperative hypothermia in TKA patients. This experimental study was conducted in a public hospital in Turkey. The study sample consisted of 46 patients equally divided into two groups. Experimental participants used both electric and wool blankets while control participants received routine care. Body temperature, feeling cold, and shivering were repeatedly measured before and after surgery. Control participants had significantly higher body temperatures in their rooms after surgery and in the first 15 minutes than experimental participants. Experimental participants showed a more rapid rise in body temperature than control participants. Using both wool and electric blankets increased body temperature.

Keywords: Hypothermia, Postoperative period, Heating method, Aged.

ÖZ

Postoperatif hipotermi yaşlı hastalarda çok yaygındır. Total diz artroplastisi (TDA) hastalarında rezervlerin tükenmesine neden olan ciddi cerrahi komplikasyonlara neden olur. Bu nedenle bu hastalarda normotermi korunmalıdır. Amaç, TDA hastalarında postoperatif hipoterminin yönetiminde hem elektrikli hem de yün battaniye kullanımının etkisini belirlemekti. Bu deneysel çalışma Türkiye'de bir devlet hastanesinde yapıldı. Çalışmanın örneklemini eşit olarak iki gruba ayrılan 46 hasta oluşturdu. Deneysel katılımcılar hem elektrikli hem de yün battaniye kullanırken, kontrol katılımcıları rutin bakım aldı. Vücut ısısı, üşüme ve titreme ameliyattan önce ve sonra tekrar tekrar ölçüldü. Kontrol katılımcıları, ameliyattan sonra ve ilk 15 dakikada odalarında deney katılımcılarına göre önemli ölçüde daha yüksek vücut sıcaklıklarına sahipti. Deneysel katılımcılar, vücut sıcaklığında kontrol katılımcılarına göre daha hızlı bir artış gösterdi. Hem yün hem de elektrikli battaniye kullanmak vücut ısısını artırdı.

A**nahtar Kelimeler:** Hipotermi, Postoperatif dönem, Isıtma yöntemi, Yaşlı

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1: Dr. Öğretim Üyesi, Esra ERTEMÜR, Kastamonu Üniversitesi Sağlık Bilimleri Fakültesi Hemşirelik Bölümü Cerrahi Hastalıklar Hemşireliği Anabilim Dalı, eertemur@kastamonu.edu.tr, orcid: 0000-0001-5531-9439
2:Prof. Dr. Sevilay ŞENOL ÇELİK, Koç Üniversitesi, sevilaycelik@ku.edu.tr 0000-0002-1981-4421
3: Prof. Dr. Fethiye ERDİL, Eastern Mediterranian University, fethiye.erdil@emu.edu.tr 0000-0001-7685-6575
İletişim / Corresponding Author: Esra ERTEMÜR
e-posta/e-mail: eertemur@kastamonu.edu.tr

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INTRODUCTION

Mild hypothermia, which is very common among patients in the postoperative period, causes an increase in pulse, peripheral vascular resistance, blood pressure, central venous pressure, cardiac output and shivering, while it decreases thermal comfort. Hypoperfusion, which is caused by hypothermia, may also cause many problems such as bleeding, surgical site infections, an extended hospital stay and accordingly, an increase in the rate of morbidity and even mortality.[1,2] The older people are one of the risk groups in terms of the development of hypothermia. As the thermoregulation mechanism is slowed down in older people, they get more prone to hypothermia.[3]

Hypothermia can also develop in the older people after total knee arthroplasty (TKA), which is frequently performed in this age group due to rheumatoid arthritis, osteoarthritis, osteoporosis, etc.[4] TKA is also a large-scale surgical intervention. Moreover, some complications during TKA surgery such as bleeding, infection, deep vein thrombosis and pulmonary thromboembolism may be aggravated by hypothermia.[5] A central body temperature of 37 ^{0}C prior to a TKA operation may decrease to 33^{0}C after the operation.[6,7]

Hypothermia causing more severe surgical complications in the preoperative and postoperative period of the older people leads to a depletion of reserves in the older people undergoing TKA and, it is difficult to return to a preoperative state. Therefore, nurses should try to make patients normothermic by using effective heating techniques. The relevant literature indicates that active and passive heating techniques are used to control hypothermia.[8-13] Active heating techniques are based on the principle of providing exterior heat to the patient; they include the use of air and water heaters, electric blankets, radiant heaters and waterbeds. In some studies, the most effective way of controlling perioperative hypothermia was to heat the skin using hot-air blowers. However, the cost-effectiveness of hot-air blowers has still not been proved.[14] Passive heating techniques aim to control hypothermia by preventing loss of temperature and preserving current body temperature. The effectiveness of passive heating techniques is based on the thickness of the layer of air between the sheets used to heat the patient and/or preserve the current body temperature and the patient's skin. The covered part of the body and the preserved and/or gained heat are consistent with each other in passive heating techniques. Blankets are made of wool, cotton, acrylic or polyester.[15,16] Although a variety of raw materials are used to produce blankets, previous studies have been conducted about using of cotton blankets.[17]

The studies have reported that cotton blankets, a passive heating technique, preserved body temperature did not increase it. Thus, it is suggested that passive heating techniques be used together with active heating methods.[18-21] In addition, a review of the literature on materials used for the production of sheets revealed that sheets made of wool were better than cotton sheets in some aspects such as the preservation of temperature and the removal of steam. It was found that the thermal conductivity coefficient of woolen materials was smaller than that of cotton materials.[22] Thus, the thermal conductivity of woolen is better than that of cotton in a wet environment.[23] Additionally, it is suggested that one of the active heating methods be used along with covering the patient with a blanket. However, it is still not clear which active heating method should be used.[24-27] Further, alternative methods are needed to heat the patients since it is not applicable to older patients who had TKA surgery to wear special apparatus which is connected to the heater fan in the early postoperative period.[27]

Based on our literature review, it is clear that hypothermia for patients undergoing surgery is an important problem and exploration of the best practice for hypothermia control is necessary. In Turkey, research on hypothermia control is limited in the available literature, and our observation indicates that cotton blankets and electric blankets are used for hypothermia control of

the patients after surgery. Therefore, the objective of this study was to determine the effectiveness of woolen blankets in addition to electric blankets to control hypothermia in the postoperative period in patients who have undergone TKA.

MATERIAL AND METHODS

As an experimental design with repeated measures to test the following hypothesis: the average body temperature of patients who use an electric blanket along with a woolen blanket reaches a normal value at least one timeframe (15 minutes) before that of patients who use a woolen blanket. It was used electric blankets for the patients in the experimental group in addition to the routine practices in the clinic and did the routine practice in the clinic for the patients in the control group by the researcher. The routine practice consists a mattress under and a woolen blanket on top of the patient.

Setting

The study was conducted in the orthopedic clinic of a public hospital in Turkey with the capacity to serve 100.000 patients, where approximately 250 TKA operations are performed per year.

Sample

Sample of the study included patients who had TKA under spinal and/or epidural anesthesia. Sample size calculation was performed using the Number Cruncher Statistical System (NCSS)–Power Analysis and Sample Size (PASS) software. Based on the differences in the mean scores of body temperatures for seven different times (before surgery, taking to their beds after surgery, 15^{th} minutes, 30^{th} minutes, 45^{th} minutes, 60^{th} minutes and 75^{th} minutes after surgery) obtained from the patients in the pilot study, the alpha level was set at 0,05, effect size was set as 0,25 and power as 80%. With these parameters, the samples were calculated as 21 control and 21 experimental group. Thus, 23 patients were included in each group (23 patients in the experimental group and 23 patients in the control group) after the groups were stratified according to age and gender. Pilot observations were included in the analysis. In the pilot study, it was determined whether there is a difference between the control and experiment groups in terms of dependent variables and control variables. The patients were selected with quota sampling according to age and gender (each group: male: 4, female: 9 between 60- 69 ages; male: 3, female: 7 between 70-79 ages) and were randomized according to days of the week.

The inclusion criteria for this study were: being between the ages of 60 to 79, having an SPO_2 value above 90% when they were hospitalized, no having diseases affecting cognitive functions or thermoregulation due to systemic effects, and no using any medication which could effect thermoregulation. The patients with dementia (n: 1), Alzheimer (n: 1), Parkinson (n: 2) and using antihistamine (n: 1) were not included in the sample. Additionally, new patients were selected for the sample in place of patients (n: 4) who wished to withdraw from the study since they felt uncomfortable by the way the blanket was placed on them or were uncomfortable being uncovered above their wrists or ankles or lower than the bottom line of the clavicle, or who needed to remove the blanket completely because of the clinical interventions, or who had to be taken to the intensive care unit due to the unexpected changes in their general condition. Four different surgical teams and one single anesthesia team were performed the TKA surgeries in this hospital. The anesthesia team administered the same anesthetic medication as a spinal or local combined (spinal and epidural) to all patients in the sample.

Data Collection

The study was conducted between November 1, 2013, and May 1, 2014. To collect the data, a descriptive characteristics information form was used, which was developed in accordance with the literature. Tools included a tympanic thermometer

(Kendall), saturation measurement device (pulse oximeter) and sphygmomanometer (Omron). The researcher informed the nurses in the clinic about the procedures to be done for the experimental and control groups. The day before the application of this study, the researcher reviewed the list of the operations to be performed the next day and identified patients who would have TKA. The researcher also evaluated the fitness of these patients to sample criteria and patients were informed both verbally and in written form. After obtaining informed consent, it was measured patients' height and weight, recorded their demographic data, family history, medical history and the taking medication on a descriptive characteristics information form (DCIF) by the researcher. The researcher measured the patients' body temperatures in the same ear in which their body temperatures were measured when they had been hospitalized. The researcher evaluated whether there were earpieces, infections or external auditory canals for plugs in deciding in which ear to measure the body temperature. To measure the pulse, arterial blood pressure and SPO_2, it was used the arm that did not have established vascular access. It was obtained the temperature and humidity of the operating room one hour after each patient was taken to surgery and recorded this information on the DCIF.

In addition, a woolen blanket used in the clinic was laid on the bed while control group patients were in the operating room. For experimental group patients, an electric blanket was placed under the mattress and a wool blanket on the bed sheet while they were in the operating room. The electric blanket was operated at "warm" level for 20 minutes before the experimental patient left the operation room.

After the patients were taken to their own beds after surgery, the researcher covered them with a wool blanket from the top of clavicle to the bottom of their feet, put the sphygmomanometer on the arm without an IV line, positioned the sphygmomanometer so that the instrument panel was on the blanket and measured the patients' blood pressure. Then, the electric blanket was operated at the "warm" level for the experimental group, and it was turned off and unplugged when their body temperature reached 36,0 °C.

After each measuring of vital signs, it was recorded the responses "very little", "a little" and "very much" as "Yes", and the responses "no" and "no, I don't" as "No" by asking whether they felt cold or not. The researcher put the SPO_2 probe on the patients' fingers after blood pressure measurements and counted respiratory rates for one minute while waiting for the SPO_2 measurements. During the SPO_2 measurement, it was noted if patients did not move, did not have nail polish, henna or any other paint on their finger on which the measurement was made, whether the pigmentation of the skin was not different from other body sites, and whether the measurement site was not colder than other body sites. To prevent light in the room from affecting the measurement, the woolen blanket was placed on the patients' hands in a way so as not to prevent reading the measurement value after the saturation probe was placed on the finger. The patients' body temperatures were measured in the ear recorded on the DCIF. The ear was pulled back and entered at a right angle. After this measurement, the researcher evaluated shivering by observation, and recorded these data on the DCIF.

Finally, it was read the temperature and humidity in the room on a thermohygrometer and recorded the measurement on the evaluation form by the researcher. The researcher measured body temperature, pulse rate, respiration rate, arterial blood pressure, pulse pressure, oxygen saturation, feeling cold and shivering of experimental and control group before their surgeries, every 15 minutes after surgeries until being 36 ^{0}C of body temperature.

Ethical Considerations

This study was approved by a University's Clinical Research Ethics Committee in Ankara and, it was obtained permission by Public Hospitals Association General Secretariat. Informed consent was provided by all participants. All study procedures were

conducted in accordance with the Declaration of Helsinki.

Data Analysis

The descriptive statistics of the study are presented as means, standard deviations and frequency and percentages. The presence of a normal distribution was determined by the Kolmogorov-Smirnov test. Data was evaluated as using the chi-square test to compare categorical data in contingency tables, the Student's *t* test for normally distributed variables in comparing differences between the groups, the Mann-Whitney-U test for variables not normally distributed, one-way ANOVA for normally distributed variables in the comparison of more than two groups and Kruskal-Wallis analysis of variance when the variable was not normally distributed.

Limitations

The results of this study cannot be generalized because of the small sample size and the single research site. In addition, the results of this study might have been influenced by the temperatures of the rooms where the patients were monitored, the type of anesthesia administered to the patients and the team who performed the operation since these factors could not be controlled in the hospital where the study was conducted.

RESULTS AND DISCUSSION

Table 1 indicates that there was no significant difference between the patients in the experimental and control groups body mass index (BMI), chronic diseases, medication use, age or duration of stay at the hospital (p>0,05).

Table 1. Descriptive Characteristics of the Patients

Descriptive Characteristics		Control Group (n=23)		Experimental Group (n=23)		Statistical Analysis
		n	*%*	*n*	*%*	
Body mass index						
Normal		2	8,7	4	17,4	p=0,45
Overweight		6	26,1	8	34,8	
Obese		15	65,2	11	47,8	
Chronic Diseases						
Diabetes mellitus						
yes		5	21,73	5	21,73	p=1,00
no		18	78,27	18	78,27	
Hypertension						
Yes		17	73,91	13	56,5	p=0,21
No		6	26,09	10	43,5	
Medication Used						
Anti-hypertensive						
Yes		20	86,95	10	43,47	p=0,08
No		3	13,05	13	56,53	
Diuretic						
Yes		3	13,05	5	21,74	p=0,4
No		20	86,95	18	78,26	
Age[a]			68,09 ±5,169 (60-78 years)		69,00 ±4,815 (60-76 years)	p=0,53
Gender	**Female**		16		16	-
	60-69		9		9	-
	70-79		7		7	-
	male		7		7	-
	60-69		4		4	-
	70-79		3		3	-
Duration of Hospital Stay[a]			6,26 ±1,421 days (4-11 days)		6,18 ±1,593 days (4-9 days)	p=0,86

[a]: These values are means or standard deviations.

Table 2 reports that the difference between the experimental and control groups by duration of surgery, amount of fluids given to the patient during and after the surgery, the amount of fluid coming from the drain, temperature of the operating room, humidity of the operating room and humidity in the patient's room was not statistically significant (p>0,05). The wards where the patients in the experimental group were monitored were colder than the wards where the patients in the control group were monitored (p<0,05) because of seasonal changes which is a limitation to our study.

Table 2. Surgery and Operating Room Characteristics

The Characteristics of the Operations and Operation Rooms	Control Group (n=23)	Experimental Group (n=23)	Statistical Analysis
	X̄± SD	X̄± SD	
The length of the operation (minutes)	121,30 ±27,68	123,70 ±19,082	p=0,73
The amount of fluids given during the operation (ml)	1804,35 ±616,79	1821,74 ±568,056	p=0,92
The amount of fluids given after the operation (ml)	1393,48 ±955,87	1500,00 ±608,276	p=0,65
The amount of fluids coming from the drain (ml)	266,30 ±157,68	266,30 ±117,649	p=1,00
Temperature of the operation room	22,12 ±0,77	22,12 ±1,20	p=0,98
Humidity in the operation room	33,04 ±8,94	39,83 ±9,4	p=0,16
Temperature of the room where patients were monitored after the operation	25,53±2,92	23,61 ±1,60	**p=0,00**
Humidity of the room where patients were monitored after the operation	34,00 ±1,8	34,52 ±3,54	p=0,53
Type of anaesthesia administered to the patient (n, %)			
Spinal	7 (30.4)	(65.2)	**p=0,01**
Spinal and epidural	16 (69.6)	8(34.8)	

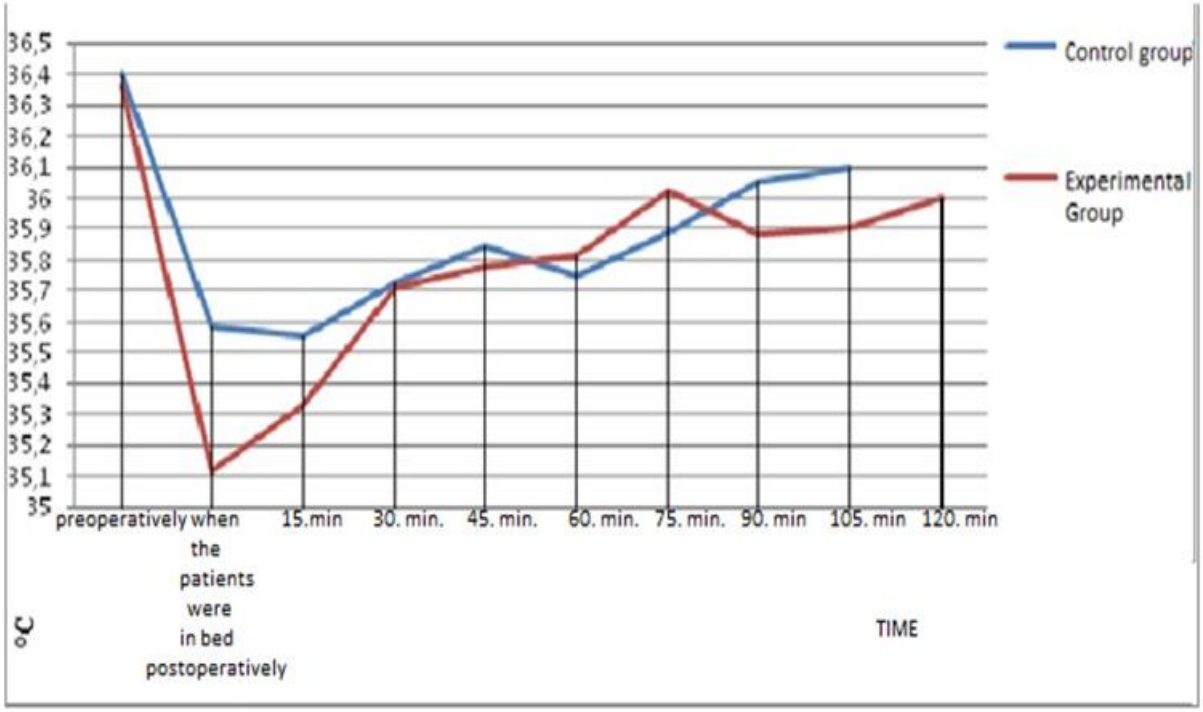
[a]: These values are numbers and percentages

Table 3 indicates that the difference between the experimental and control groups in the body temperature was not statistically significant except for a few timeframes (p>0,05). It was found that control group patients' body temperatures when they were taken to their rooms after the operation and in the first 15 minutes were significantly higher than those of the patients in the experimental group (p<0,05). The reason for their body temperatures being higher was that there were some significant differences between a few timeframes in the temperatures of the room where the patients were monitored after surgery and the types of anesthesia they had received. Meanwhile, it was found that the body temperatures of patients in the experimental group increased faster than those in the patients in the control group (Graphic 1). In addition, the number of the control group patients feeling cold was higher than those of the experimental group, however, the difference was not statistically significant (Table 3).

Although it is not shown in the table 3, the differences between vital values (pulse, arterial blood pressure and SPO_2 for each time) and shivering of the patients in the control and experimental group were not statistically significant (p>0,05).

Table 3. Body Temperature and Feeling of Cold in the Experimental and Control Groups by Timeframes

Body Temperature and Feeling Cold	Body Temperature (m ± sd)			Feeling of Cold (n, %)		
Timeframes	Control	Experimental	Statistical analysis	Control (Yes)	Experimental (Yes)	Statistical analysis
Preoperative	36,7±0,4	36,4±0,2	**P=0.00**	0 (0.0%)	0 (0.0%)	-
Being taken to the patient's bed after the operation	35,6±0,2	35,1±0,4	**P=0.00**	13 (56.5%)	7 (30,4%)	P=0.06
Postoperative: 15th minute	35,6±0,2	35,3±0,3	**P=0.01**	12 (52,1%)	9 (39,1%)	P=0.25
Postoperative: 30th minute	35,7±0,2	35,7±0,9	**P=0.93**	6 (26.0%)	3 (13,0)	P=0.32
Postoperative: 45th minute	35,8±0,2	35,8±0,3	p=0,47	5 (21.7%)	1 (4,3)	P=0.08
Postoperative: 60thminute	35,7±0,2	35,8±0,3	p=0,51	2 (8.7%)	0 (0.0%)	P=0.08
Postoperative: 75th minute	35,9±0,1	36,0±0,2	p=0.26	0 (0.0%)	0 (0.0%)	-
Postoperative: 90th minute	36,1±0,2	35,9±0,1	p=0.08	0 (0.0%)	0 (0.0%)	-
Postoperative: 105th minute	36,1±0,1	35,9±0,3	p=0.41	0 (0.0%)	0 (0.0%)	-
Postop: 120th minute	-	36,0±0,0	-	0 (0.0%)	0 (0.0%)	-



Graphic 1: Changes in Control and Experimental Group Body Temperatures in Time

DISCUSSION

Aging makes people more sensitive to hypothermia as a result of the slowing down of the thermoregulation mechanism.[28-30] For that reason, perioperative hypothermia, which is more frequent among the older people, is considered the most frequent and preventable complication in surgery.[31-33] In addition, the maintenance of normothermia is important for patient safety and satisfaction, positive surgical results, the maintenance of quality health care. As reported by Fred, Ford, 14 million people have hypothermia in the USA every year, and the prevalence of hypothermia in patients in intensive care units after surgery is between 30% and 40%.[34] In our study, although the hospital lengths of stay in the experimental group were shorter than those in the control group, the difference was not statistically significant (p>0,05) (Table 1). The length of stay of patients in the experimental and control groups were similar to those in other studies.[31-34]

The prevention of hypothermia in the perioperative period, which is common and can cause serious complications, is a subject that has been studied for the last two or three decades. Few studies on this subject report that passive heating methods can be used together with active heating methods.[35,36] In studies on blankets, it is seen that cotton blankets are used, but since cotton is a material with high heat permeability, it is reported that materials with low heat permeability should be preferred to prevent heat loss. Woolen blankets are known as the most effective covering tool against the cold and are used in hospitals in our country, but since we could not find any studies on wool blankets in the literature, we think that this study will contribute to the literature.[17,36] An analysis of table 3 indicated that the body temperatures of the control group patients rose faster than those of the experimental group patients until the 45th minute; body temperatures of control group patients were lower than those of the experimental group patients in the 60th and 75th minutes, and although the body temperatures of the control group patients were higher than those of the experimental group patients after the 90th minute, the difference between the two groups was mainly not statistically significant except for one or two timeframes ($p>0,05$). The reason for control group's body temperatures being higher until the 45th minute might be that temperature of the room where control patients were monitored after the operation was higher than those of experimental group (Table 2). As cited by Lundgren, Henriksson, Greif et al. conducted a laboratory study with real people, and after they repressed the shivering seen in moderate hypothermia, they heated one group of patients using carbon-fiber blankets which reflected heat and used passive heating methods for the other group.[37] At the end of the procedure, there was a slight decrease in the body temperatures of the patients who were heated using passive heating methods; however, the difference was not statistically significant and there was no decrease in the experimental group. Again, as cited by Lundgren, Henriksson, Kober et al. adapted this study by Greif et al. to trauma patients in the pre-hospital period and found that the body temperatures of the control group patients decreased by 0,4 °C/hour while that of the experimental group patients increased by 0,8 °C/hour ($p<0,05$).[37] The results of these studies are consistent with the results of our study. Graphic 1 shows that the body temperatures of experimental group patients increased faster than those of the control group patients. Since the decreases in the patients' body temperatures continued until the effects of the anesthetic medication disappeared, central body temperature could increase by 0,5 º C/hour when active or passive heating methods were not applied.[34] The body temperatures of the control group patients increased by 0,16 º C in the 60th minute while those of the experimental group patients increased by 0,70 ºC in the 60th minute. Thus, a woolen blanket which was at the room temperature could not increase the body temperature. However, an electric blanket together with a woolen blanket increased the body temperature.

The number of the control group patients feeling cold was higher than those of the experimental group (Table 3). The change in the rate of patients who felt cold indicated that the thermal comfort of the patients who used an electric blanket together with a woolen blanket was better than that of the patients who used only a woolen blanket. Winslow, Susan conducted a study and compared the body temperatures of the patients who had large-scale surgeries measured with three different thermometers after anesthesia in the intensive care unit and reported that 32,8% of the patients felt cold.[38] According to the study by Jardeleza, Fleig, 9% of the control group and 8% of the experimental group felt cold, and the difference between the two groups was statistically insignificant. In this study, of the patients in the control group, the number of those who felt cold was higher than the numbers reported in the study of Jardeleza et al.[39]

It was found that the numbers of experimental and control group patients who shivered were similar in this study. Shivering that can be seen with feeling cold increases the

consumption of oxygen, and the production of lactic acid and carbon dioxide. This causes serious problems particularly in the elderly with the cardiopulmonary disease since it accelerates metabolism and puts more pressure on the heart. When thermoregulation slows down in the elderly, the shivering response decreases and causes hypothermia to last longer.[40] Horn et. al. conducted a study with 62 women who had a caesarean section, and reported that the use of heater fans together with cotton blankets did not make a significant difference in the mean body temperature and the prevalence of shivering.[40] Although at first glance, cesarean section and orthopedic surgery may seem like different fields, the cesarean section and TKA incision are almost similar in size. The depth of the tissues cut in TKA surgeries is slightly greater than in cesarean section. In terms of duration, both processes end in almost the same time. Both procedures can be performed under both epidural anesthesia and general anesthesia. For these reasons, it was thought that our study could be compared with Horn et al.'s study, since cesarean section and arthroplasty are similar conditions in terms of thermoregulation.

CONCLUSION AND SUGGESTIONS

Although the difference between the vital signs and feeling cold and shivering of the control group patients and experimental group patients was mainly not statistically significant except for few timeframes, especially, the body temperatures of patients in the experimental group increased faster than those in the patients in the control group. It can be concluded that this resulted from the use of a woolen blanket together with an electric blanket, which increased body temperature.

This study provides an evidence whether or not woollen blanket as a passive heating technique have any effect on hypothermia. Using a woollen blanket together with an electric blanket might help to manage hypothermia control rather than using cotton blankets alone. In future studies, researchers could study with a younger population, different types of anesthesia and surgeries.

REFERENCES

1. Healy, K., O'Sullivan, A. and McCarthy, L . (2019). "A Nurse-Led Audit on the Incidence and Management of Inadvertent Hypothermia in an Operating Theatre Department of an Irish Hospital". J Perioper Pract., 29, 54-60.
2. Buraimoh, M.A., Nash, A., Howard, B., Yousaf, I., Koh, E., Banagan, K., Gelb, D., Schreibman, D., and Ludwig, S.C. (2019). "Effect of Forced-Air Warming Blanket Position in Elective Lumbar Spine Surgery: Intraoperative Body Temperature and Postoperative Complications". Surgical Neurology International, 10, 229. https://doi.org/10.25259/SNI_102_2019
3. Collins, S., Budds, M., Raines, C., and Hooper, V. (2019). "Risk Factors for Perioperative Hypothermia: A Literature Review". J Perianesth Nurs., 34 (2), 338-346. https://doi.org/10.1016/j.japan.2018.06.003
4. World Health Organisation. (2023). "Rheumatoid Arthritis". [cited 2023 09.11]; Available from: https://www.who.int/news-room/fact-sheets/detail/rheumatoid-arthritis
5. Wainwright, T.W, Gill, M., McDonald, D.A., Middleton, R.G., Reed, M., Sahota, O., Yates, P. and Ljungqvist, O. (2020). "Consensus Statement for Perioperative Care in Total Hip Replacement and Total Knee Replacement Surgery: Enhanced Recovery After Surgery (ERAS®) Society Recommendations". Acta Orthopaedica, 91 (1), 3-19, https://doi.org/10.1080/17453674.2019.1683790
6. Rauch, S., Miller, C., Bräuer, A., Wallner, B., Bock, M., and Paal, P. (2021). "Perioperative Hypothermia- A Narrative Review". International journal of Environmental Research and Public Health, 18 (16), 8749. https://doi.org/10.3390/ijerph18168749
7. Tjoakarfa, C. David, V., Ko, A., and Hau, R. (2017). "Reflective Blankets are as Effective as Forced Air Warmers in Maintaining Patient Normothermia during Hip and Knee Arthroplasty Surgery". J Arthroplasty, 32 (2), 624-627.
8. Al-Dardery, N.M., Abdelwahab, O. A., El-Samahy, M., Seif, A. M., Mouffokes, A., and Khaity, A. (2023). "Self-Warming Blankets versus Active Warming by Forced-Air Devices for Preventing Hypothermia: A Systematic Review and Meta-Analysis". Medicine, 102 (18), e33579. https://doi.org/10.1097/md.0000000000033579
9. Soysal, G.E., İlçe, A. and Erkol, M.H. (2018). "Effect of "an Innovative Technology" Active Warming and Passive Warming on Unplanned Hypothermia during Perioperative Period: A Clinical Trial". TTM., 8 (4), 216-224.
10. Palmer, J., Soucier, M. and Deeds, J. (2019). "An Innovative Warming Strategy to Increase Patient Satisfaction". Nursing, 49 (7), 49-53. https://doi.org/10.1097/01.NURSE.0000559920.61696.84
11. Garceau, C. (2023). "Inadvertent Perioperative Hypothermia". AANA Journal, 91 (4), 303–309.
12. Cavdar, I., Kandemir, D., Seyhan Ak, E., and Akyuz, N. (2021). "Is Normothermia Maintained in the Operating Room?". Dubai Medical Journal, 4 (4), 310-316. https://doi.org/10.1159/000518827
13. Shang, A.C., Galow, K.E., and Essuman, J.T. (2020). "Utility of Perioperative Warming for the Prevention of Surgical Site Infection and Patient Rehabilitative Complications: A Systematic Review". EMJ Innov., 4 (1), 63-72. https://doi.org/10.33590/emjinnov/19-00154
14. Wang, J.F. and Deng, X.M. (2023). "Inadvertent Hypothermia: A Prevalent Perioperative Issue that Remains to be Improved". APS, 1 (3), 24-37. https://doi.org/10.1007/s44254-023-00022-6
15. Cho, S.A., Yoon, S., Lee, S.J., Jee, Y.S., Cho, C.K. and Sung, T.Y. (2022). "Clinical Efficacy of Short-term Prewarming in Elderly and Adult Patients: A Prospective Observational Study".

International Journal of Medical Sciences, 19 (10), 1548-1556. https://doi.org/10.7150/ijms.77578.
16. Mansoor, T. (2021). Modelling of Thermal Resistance and Some Other Comfort Parameters of Socks in Wet State. Dissertation Thesis. Technical University of Liberec, Faculty of Textile Engineering, Supervisor: prof.Ing.LubošHes.
17. Bilgin, M. (2005). "Battaniye Sektör Araştırması". İstanbul Ticaret Odası. p. 1-17.
18. Simegn, G.D., Bayable, S.D., and Fetene, M.B. (2021). "Prevention and Management of Perioperative Hypothermia in adult Elective Surgical Patients: A Systematic Review". Annals of Medicine and Surgery, 72, 103059. https://doi.org/10.1016/j.amsu.2021.103059.
19. Halawi, M.J., Gronbeck, C., Metersky, M.L., Wang, Y., Eckenrode, S., Mathew, J., Suter, L. G., and Eldridge, N. (2021). "Time Trends in Patient Characteristics and In-Hospital Adverse Events for Primary Total Knee Arthroplasty in the United States: 2010-2017". Arthroplasty Today, 11, 157–162. https://doi.org/10.1016/j.artd.2021.08.010.
20. Kerbel, Y.E., Johnson, M.A., Barchick, S.R., Cohen, J.S., Stevenson, K.L., Israelite, C. L., and Nelson, C.L. (2021). "Preoperative Risk Stratification Minimizes 90-day Complications in Morbidly Obese Patients Undergoing Primary Total Knee Arthroplasty". The Bone & Joint Journal, 103-B (6 Supple A), 45-50. https://doi.org/10.1302/0301-620X.103B6.BJJ-2020-2409.R1.
21. Shaw, C. A., Steelman, V. M., DeBerg, J., and Schweizer, M. L. (2017). "Effectiveness of Active and Passive Warming for the Prevention of Inadvertent Hypothermia in Patients Receiving Neuraxial Anesthesia: A Systematic Review and Meta-analysis of Randomized Controlled Trials". J Clin Anesth. 38, 93-104.
22. Marmaralı, A. Özdil, N., Kretzschmar, S.D. ve Gülsevin N.O. (2006). "Giysilerde Isıl Konforu Etkileyen Parametreler". Textile and Apparel, 4, 241-246.
23. Riley, C., and Andrzejowski, J. (2018). "Inadvertent Perioperative hypothermia". BJA Education, 18 (8), 227–233. https://doi.org/10.1016/j.bjae.2018.05.003
24. Lynch, S., Dixon, J. and Leary, D. (2010). "Reducing the Risk of Unplanned Perioperative Hypothermia". AORN Journal, 92, 553-562.
25. Torossian, A., Bräuer, A., Höcker, J., Bein, B., Wulf, H., and Horn, E. P. (2015). Preventing Inadvertent Perioperative Hypothermia. Dtsch Arztebl Int., 112 (10), 166-172.
26. Conway, A., Gow, J., Ralph, N., Duff, J., Edward, K. L., Alexander, K., Munday, J., and Bräuer, A. (2019). "Implementing a Thermal Care Bundle for Inadvertent Perioperative Hypothermia: A Cost-Effectiveness Analysis". Int J Nurs Stud, 97, 21-27.
27. O'Malley, N.T., Fleming, F.J., Gunzler, D.D., Messing, S.P. and Kates, S.L. (2012). "Factors Independently Associated with Complications and Length of Stay after Hip Arthroplasty: Analysis of the National Surgical Quality Improvement Program". J Arthroplasty, 27 (10), 1832-1837.
28. Cooper, S. (2006). "The Effect of Preoperative Warming Patients' Postoperative Temperatures". AORN, 83 (5), 1090-1113.
29. Baker, B. and Lawson, R. (2012). "Maternal and Newborn Outcomes Related to Unplanned Hypothermia in Scheduled Low-Risk Cesarean Delivery Births". Newborn Infant Nurs Rev., 12 (2), 75-77.
30. Nathália Haib Costa, P. and Ana Lúcia, M. (2019). "Postoperative Complications Related to Intraoperative Hypothermia". Enfermeria Glob., 18 (3), 270-313.
31. Pikus, E. and Hooper, V.D. (2010). "Postoperative Rewarming: Are There Alternatives to Warm Hospital Blankets?". JOPAN, 25 (1), 11-23.
32. Fred, C., Ford, S., Wagner, D. and Vanbrackle, L. (2012). "Intraoperatively Acquired Pressure Ulcers and Perioperative Normothermia: A Look at Relationships". AORN J., 96 (3), 251-260. doi: 10.1016/j.aorn.2012.06.014.
33. Madrid, E., Urrútia, G., Roqué i Figuls, M., Pardo-Hernandez, H., Campos, J.M., Paniagua, P., Maestre, L. and Alonso-Coello, P. (2016). "Active Body Surface Warming Systems for Preventing Complications Caused by Inadvertent Perioperative Hypothermia in Adults". Cochrane Database Syst Rev., 4 (4), CD009016. doi: 10.1002/14651858.CD009016.pub2. PMID: 27098439; PMCID: PMC8687605. (4).
34. Levin, R.F., Wright, F., Pecoraro, K., and Kopec, W. (2016). "Maintaining Perioperative Normothermia: Sustaining an Evidence-Based Practice Improvement Project". AORN journal, 103 (2), 213.e1–213.e13. https://doi.org/10.1016/j.aorn.2015.12.020
35. Lundgren, P., Henriksson, O., Naredi, P. And Björnstig, U. (2011). The Effect of Active Warming In Prehospital Trauma Care during Road and Air Ambulance Transportation - a Clinical Randomized Trial. Scand J Trauma Resusc Emerg Med , 19, 59 (2011), https://doi.org/10.1186/1757-7241-19-59.
36. Ünal Z. (2010). Investigation of the some Performance Properties of Knitted Fabrics which are Produced by Soybean and Organic Cotton Yarn; M.Sc. Thesis in Textile Engineering University of Gaziantep
37. Winslow, E.H., Cooper, S. K., Haws, D.M., Balluck, J. P., Jones, C.M., Morse, E.C., Edwards, T.D., and Kelly, P.A. (2012). "Unplanned Perioperative Hypothermia and Agreement between Oral, Temporal Artery, and Bladder Temperatures in Adult Major Surgery Patients". Journal of Perianesthesia Nursing : Official Journal of the American Society of PeriAnesthesia Nurses, 27 (3), 165–180. https://doi.org/10.1016/j.jopan.2012.01.012.
38. Jardeleza, A., Fleig, D., Davis, N., and Spreen-Parker, R. (2011). "The Effectiveness and Cost of Passive Warming in Adult Ambulatory Surgery Patients". AORN Journal, 94 (4), 363–369. https://doi.org/10.1016/j.aorn.2011.03.010.
39. Hooper, V.D., Chard, R., Clifford, T., Fetzer, S., Fossum, S., Godden, B., Martinez, E.A., Noble, K.A., O'Brien, D., Odom-Forren, J., Peterson, C., Ross, J., Wilson, L., and ASPAN (2010). "ASPAN's Evidence-Based Clinical Practice Guideline for the Promotion of Perioperative Normothermia: Second Edition". Journal of Perianesthesia Nursing : Official Journal of the American Society of Perianesthesia Nurses, 25 (6), 346–365. https://doi.org/10.1016/j.jopan.2010.10.00642.
40. Horn, E.P., Schroeder, F., Gottschalk, A., Sessler, D.I., Hiltmeyer, N., Standl, T., and Schulte am Esch, J. (2002). "Active Warming during Cesarean Delivery". Anesthesia and Analgesia, 94 (2). https://doi.org/10.1097/00000539-200202000-00034

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Intergenerational Analysis of Some Characteristics of Women's Birth and Perceptions of Birth

Kadınların Doğumlarına İlişkin Bazı Özelliklerinin ve Doğum Algılarının Kuşaklarası İncelenmesi

Rukiye Demir[1]

ABSTRACT

The aim of this research is to examine some characteristics of women regarding their birth and their perceptions of birth. The research is descriptive/cross-sectional and was conducted between February and July 2023. The universe of the research consisted of women who were born and gave birth between 2000-1958, and 100 women were included in each group (Baby Boomer (BP) generation n=100, X generation n=100, Y generation n=100 people) in order to represent all three generations. It was completed with 300 women. The data were collected with the "Personal Information Form and the Mother's Perception of Birth Scale (MPBS)". The mean scores of the BP, X and Y generation women were 84.79±8.32, 79.32±1.53 and 71.32±11.93, respectively. It was found that there was a significant difference between the women's total mean score of MPBS between generations; it was found that the total mean score of MPBS of women in the BP generation was higher than that of women in other generations ($p<0.05$). It has been concluded that there are some changes in the birth perceptions and some characteristics of women between generations, and the perception of birth of women decreases from the BP generation to the Y generation.

Key Words: Birth, Birth perception, Birth experience, Woman, Intergenerational.

ÖZ

Bu araştırmanın amacı, kadınların doğumlarına ilişkin bazı özelliklerinin ve doğum algılarının kuşaklarası incelenmesidir. Araştırma tanımlayıcı/kesitsel tipte olup, Şubat-Temmuz 2023 tarihleri arasında yürütülmüştür. Araştırmanın evrenini 2000-1958 yılları arasında doğan ve doğum yapan kadınlar oluşturmuş, örneklemi oluşturan kadınların üç kuşağı da temsil etmesi için araştırmadaki her gruba 100 kadın alınarak (Bebek Patlaması (BP) kuşağı n=100, X kuşağı n=100, Y kuşağı n=100 kişi) araştırma 300 kadın ile tamamlanmıştır (n=300). Veriler, "Kişisel Bilgi Formu ve Annenin Doğumu Algılaması Ölçeği (ADAÖ)" ile toplanmıştır. BP, X ve Y kuşağındaki kadınların ADAÖ toplam puan ortalaması sırasıyla 84,79±8,32, 79.32±1.53 ve 71.32±11.93'dür. Kuşaklararasında kadınların ADAÖ toplam puan ortalaması arasında anlamlı bir fark olduğu; BP kuşağındaki kadınların ADAÖ toplam puan ortalamasının diğer kuşaklardaki kadınlardan daha yüksek olduğu bulunmuştur ($p<0.05$). Kuşaklararasında kadınların doğumlarına ilişkin bazı özellikleri ve doğum algılarında değişikliklerin olduğu, BP kuşağından Y kuşağına doğru kadınların doğum algılarının azaldığı sonuçlarına ulaşılmıştır.

Anahtar Kelimeler: Doğum, Doğum algısı, Doğum deneyimi, Kadın, Kuşaklarası.

[1] Dr. Öğr. Üyesi, Ebelik, Çanakkale Onsekiz Mart Üniversitesi Sağlık Bilimleri Fakültesi, Ebelik Bölümü, Çanakkale, Türkiye, 05077434208 rukiye_kiymik@hotmail.com, ORCID: 0000-0003-4649-6403

İletişim / Corresponding Author: Dr. Öğr. Üyesi Rukiye Demir
e-posta/e-mail: rukiye_kiymik@hotmail.com

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INTRODUCTION

The concept of generation is defined as "a group of individuals consisting of different age groups, generation, or cohort" and intergenerational transitions are determined based on significant developments occurring worldwide.[1] Each generation, in its own time, has witnessed similar historical events and had similar conditions and opportunities, leading to the tendency to exhibit similar ideas and attitudes.[2] In addition, there may be some differences in the characteristics of women regarding pregnancy, childbirth, and postpartum processes between generations. Practices passed down from generation to generation, as well as women's perception, reactions, and interpretations of events, can vary depending on the opportunities available in each generation.[3]

Childbirth, apart from being an important and beautiful experience in a woman's life, is a unique experience influenced by various factors.[2] The generation in which women experience childbirth, their experiences, perceptions, and the influence of factors such as those experienced by close ones are believed to play a role. These factors can affect a woman's approach to childbirth and labor pain, shaping her perception of childbirth, and leading to the formation of a negative birth experience and the differentiation of women's characteristics related to childbirth.[4,5] Looking at the historical process, childbirth used to be perceived as a natural process, with women believing in and not resisting this natural process. However, today it is perceived as a dangerous process requiring intervention.[6] It is noted that with the rapid changes in obstetrics and technology, women have lost their belief in the naturalness of childbirth, leading to an increase in negative birth experiences and birth fears, which in turn result in increased intervention rates during childbirth.[3,6] Furthermore, childbirth not only affects the woman giving birth but also influences women within the same generation or those close to them, shaping the society's perception and experiences of childbirth through intergenerational transmission.[3,7]

Birth is one of the most significant experiences in women's lives, affecting their health physically, biologically, psychologically, and socially. It is reported that this unique experience has important effects on women's health, especially.8 It is emphasized that childbirth is an important process for psychological adaptation in women and attention is drawn to the concept of childbirth perception.[2] A positive childbirth perception reduces the use of analgesia, anesthesia, and oxytocin during childbirth, decreases birth fear and duration, reduces the rates of assisted vaginal birth and cesarean section, and increases satisfaction with childbirth, contributing to positive birth plans and positive birth experiences in women's future.[9-11] On the other hand, a negative childbirth perception can lead to various negative consequences such as delayed mother-infant bonding, sexual dysfunction, postpartum depression, and breastfeeding problems.[4]

It is known that intergenerational transmissions regarding pregnancy and childbirth have significant effects on women's thoughts and perceptions, and it is important to focus on them. However, there are few studies in the literature that reveal women's childbirth perceptions and experiences from the past to the present.10 However, it is necessary to reveal how and in what direction the similarities, differences, or changes occur in women's childbirth experiences between generations.[6] This is because childbirth perception can not only individually affect the woman giving birth but also influence women who will experience childbirth after her through positive or negative transmissions.[2,9,11] It is thought that the results of this study will contribute to the structuring of maternity services in line with the generations in which women live. The aim of this research is to examine some characteristics of women regarding their birth and their perceptions of birth.

MATERIALS AND METHOD

Study Design

The research is a descriptive/cross-sectional study conducted online through various digital platforms between February 20 and July 10, 2023.

Participants and Setting

The population of the study consisted of women who were born and gave birth between the years 2000 and 1958 (inclusive). The sample size was determined through power analysis using G*Power 3.0.10. According to the study conducted by Coşar & Demirci (2012), the total mean score and standard deviation of the MPBS for the education group were found to be 104.42±12.54, and for the control group, they were 70.60±11.62.8 Based on this, the sample size was determined to be at least 61 women for each of the generation BP, X, and Y groups, considering an effect size of 0.29, α=0.05, and power of 80%. However, taking into account the possibility of women not continuing to participate in the study, 100 women were included in each group (n=300) to represent all three generations.

The age range of the examined generations was selected according to the literature, assuming that women born between 1946 and 1964 represent the BP generation, those born between 1965 and 1979 represent generation X, and those born between 1980 and 1999 represent generation Y.[12] Women born between 1999 and 1958 (inclusive) were included in the study. Due to the advanced age and the likelihood of health problems and difficulties in answering questions for women in the BP generation, a maximum age limit of 65 was considered appropriate for participation in the study. The inclusion criteria were women born between 1999 and 1958, having given birth without experiencing any complications, and voluntarily participating in the study.

Data Collection

The data of the study were collected online using the "Personal Information Form and the MPBS". Data collection forms were sent as links to the mobile phones of women who were reachable by the researchers, had their numbers registered on their phones, and were members of digital groups (Instagram, Facebook, Telegram, WhatsApp). The link included an explanation of the inclusion criteria, and women who met the criteria and agreed to participate in the study were asked to complete the questionnaire by answering the questions in the link.

Data Collection Tools

Personal Information Form: It consisted of 28 questions aimed at obtaining socio-demographic and obstetric information about the women participating in the study, based on the questions prepared by the researchers by reviewing the literature.[6,8,9,13-15]

Mother's Perception of Birth Scale (MPBS): It is a tool that measures mothers' perception of their childbirth experiences. The scale, originally developed by Marut and Mercer (1979) with 29 items, was transformed into a 25-item, 5-subscale Likert-type scale by Fawcett and Knauth in 1996. The Turkish validity and reliability of the scale were conducted by Güngör and Beji (2007).[14] Each item in the scale is scored from 1 to 5, ranging from one (none) to five (a lot). The subscales of the scale are: Experiences during Birth, Experiences during the Pain Period of Birth, Postpartum, Partner Participation, and Awareness. As the scores obtained from the scale increase, the mother's positive perception of birth increases. The Cronbach's alpha value of the scale was determined as 0.84 in this study, while it was previously reported as 0.90.

Statistical Analysis

Statistical analyses were performed using the Statistical Package for Social Sciences 24 software. Descriptive statistical methods were used for data evaluation, and the normality of quantitative data was evaluated using the Kolmogorov-Smirnov-Shapiro-Wilk test. One-way ANOVA and Bonferroni test were used for comparisons of three or

more groups showing a normal distribution, while the Kruskal-Wallis and Bonferroni-Dunn tests were used for comparisons of three or more groups that did not show a normal distribution. The Pearson chi-square test and Fisher-Freeman-Halton Exact test were used for comparisons of qualitative data. The level of statistical significance was set at $p<0.05$.

Ethical Considerations

Ethical approval for the study was obtained from the XXX University Graduate Education Institute Ethics Committee (No: E-84026528-050.01.04-2300045749).
Permission to use the scale in the study was obtained via email.

RESULTS

Table 1. Comparison of Intergenerational Socio-Demographic and Obstetric Characteristics (n=300)

Characteristics	BP Generation (n=100) n (%)	X Generation (n=100) n (%)	Y Generation (n=100) n (%)	p
Education level				
Primary/Secondary school	82 (82,0)	68 (68,0)	36 (36,0)	**0.001**[1]
High school	14 (14,0)	24 (24,0)	40 (40,0)	
University	4 (4,0)	8 (8,0)	24 (24,0)	
Marital status				
Married	88 (88,0)	86 (86,0)	54 (54,0)	**0.001**[1]
Single/Widowed	12 (12,0)	14 (14,0)	46 (46,0)	
	Min-max (median) Mean ± SD*	**Min-max (median) Mean ± SD**	**Min-max (median) Mean ± SD**	
Age	59-65 (61) 61.81±2.31	44-58 (48) 48.52±3.42	24-43 (29) 29.34±1.32	
Age at marriage	15-28 (19) 19.13±2.44	16-28 (20) 20.63±1.55	17-32 (24) 24.32±1.49	**0.021**[2]
Age at first pregnancy	15-27 (19) 19.02±1.54	17-27 (21) 21.42±0.85	18-29 (25) 25.46±1.47	**0.035**[2]
Number of pregnancies	1-8 (5) 5.16±0.41	1-5 (3) 3.16±2.16	1- 4 (2) 2.73±1.45	**0.023**[3]
Number of unplanned pregnancies	0-4 (3) 3.76±1.50	0-2 (1) 1.92±1.53	0-2 (1) 1.68±1.45	**0.032**[3]
Total number of births	1-7 (4) 4.13±2.44	1-5 (2) 2.76±1.56	1-4 (2) 2.63±1.44	**0.002**[3]

**Standard deviation, [1] Pearson chi-square test, [2] One-way ANOVA test, [3] Kruskal-Wallis test*

The women in the BP and X generation who participated in the study were mostly primary/secondary school graduates (82% and 68%), while the women in the Y generation were high school graduates (40%); it was determined that 88% of the women in the BP generation, 86% of the women in the X generation and 54% of the Y generation were married. While the mean age of women in the BP generation is 61.81±2.31, it is 48.52±3.42 in the X generation and 29.34±1.32 in the Y generation. The average age of marriage and first pregnancy for women in the BP generation is respectively 19.13±2.44 and 19.02±1.54, X generation is 20.63±1.55 and 21.42±0.85, Y generation is 24.32±1.49 and 25.46±1.47. The mean number of pregnancies, unplanned pregnancies and total births of the women in the BP generation was respectively 5.16±0.41, 3.76±1.50, and 4.13±2.44, in the X generation was 3.16±2.16, 1.92±1.53 and 2.76±1.56, and in the Y generation was 2.73±1.45, 1.68 ±1.45 and 2.63±1.44. There is a statistically significant difference between the generations in terms of education and marital status, age at marriage, age at first pregnancy, pregnancy, unplanned pregnancy and total number of births, the difference is caused by women in the BP generation, the education level of the women in the BP generation, the age of marriage, the age of first pregnancy is higher. It was determined that the marital status of most of them was married, however the number of pregnancies, unplanned pregnancies and total births was higher ($p<0.05$), (Table 1).

Table 2: Comparison of Intergenerational Pregnancy, Childbirth, and Postpartum Characteristics (n=300)

Characteristics		BP Generation n (%)	X Generation n (%)	Y Generation n (%)	p
Regular prenatal care/Receiving care during the last pregnancy	Yes	36 (36.0)	47 (47.0)	64 (64.0)	**0.001**[1]
	No	64 (64.0)	53 (53.0)	36 (36.0)	
Mode of last delivery	Vaginal delivery	75 (75.0)	65 (65.0)	57 (57.0)	**0.001**[1]
	Cesarean section	25 (25.0)	35 (35.0)	43 (43.0)	
Location of last delivery	Hospital	88 (88.0)	91 (91.0)	93 (93.0)	0.061[1]
	Home	12 (12.0)	9 (90.0)	7 (7.0)	
Person who attended the last delivery	Midwife	67 (79.0)	61 (65.0)	53 (55.0)	0.054[4]
	Doctor	21 (21.0)	31 (35.0)	41 (45.0)	
	Other	12 (12.0)	8 (8.0)	6 (6.0)	
Pain perception during the last delivery	Mild	33 (33.0)	22 (22.0)	18 (18.0)	**0.031**[4]
	Moderate	48 (48.0)	39 (39.0)	46 (46.0)	
	Severe	19 (19.0)	39 (39.0)	36 (36.0)	
Perception of the last delivery	Easy and beautiful	22 (22.0)	12 (12.0)	14 (14.0)	**0.001**[4]
	Challenging but beautiful	62 (62.0)	70 (70.0)	55 (55.0)	
	Very difficult and frightening	16 (16.0)	18 (18.0)	31 (31.0)	
Time of first breastfeeding the baby after the last delivery	Within the first hour	81 (81.0)	70 (70.0)	59 (59.0)	**0.021**[4]
	Within 2-5 hours	17 (17.0)	24 (24.0)	32 (32.0)	
	After 6 hours and later	2 (2.0)	6 (6.0)	9 (9.0)	
Exclusive breastfeeding duration for the last baby (months)	1-2 months	11 (11.0)	13 (13.0)	9 (9.0)	**0.043**[4]
	3-5 months	22 (22.0)	22 (22.0)	41 (41.0)	
	6 months and above	67 (67.0)	65 (65.0)	50 (50.0)	
Experiencing psychological problems during pregnancy and postpartum	Yes	18 (18.0)	23 (23.0)	25 (25.0)	0.068[1]
	No	82 (82.0)	77 (77.0)	75 (75.0)	
Need for information during pregnancy, childbirth, and postpartum period	Yes	41 (41.0)	43 (43.0)	47 (47.0)	0.072[1]
	No	59 (59.0)	57 (57.0)	53 (53.0)	
Sources satisfying the need for information during pregnancy, childbirth, and postpartum period (n=46)*	Healthcare professional	6 (6.0)	13 (13.0)	21 (21.0)	**0.021**[4]
	Mother/mother-in-law	28 (28.0)	11 (11.0)	18 (18.0)	
	Friend, relative	10 (10.0)	18 (18.0)	26 (26.0)	
	Social media/Internet	2 (2.0)	12 (12.0)	56 (56.0)	
Topics in which information needs were felt during pregnancy, childbirth, and postpartum period (n=148)*	Pregnancy process	21 (21.0)	22 (22.0)	18 (18.0)	0.054[4]
	Signs of danger during pregnancy	20 (20.0)	16 (16.0)	14 (14.0)	
	Labor process	25 (25.0)	28 (18.0)	26 (16.0)	
	Postpartum mother and baby care	46 (46.0)	41 (41.0)	53 (53.0)	
	Breastfeeding and breast milk	14 (14.0)	16 (16.0)	18 (18.0)	
	Vaccinations and immunizations	10 (10.0)	11 (11.0)	9 (9.0)	
	Family planning and sexuality	12 (12.0)	9 (9.0)	7 (7.0)	
Need for social support during pregnancy, childbirth, and postpartum period	Yes	70 (70.0)	72 (72.0)	72 (72.0)	0.068[1]
	No	30 (30.0)	28 (28.0)	28 (28.0)	
The individuals who provide social support during pregnancy, childbirth, and the postpartum period (n=72)*	Spouse/Partner	5 (5.0)	8 (8.0)	15 (15.0)	0.072[4]
	Healthcare personnel	13 (13.0)	16 (16.0)	28 (28.0)	
	Mother	23 (23.0)	37 (37.0)	41 (41.0)	
	Friends, relatives	31 (31.0)	22 (22.0)	28 (28.0)	

**Multiple responses were possible, [1] Pearson chi-square test, [4] Fisher Freeman Halton Exact Test*

36% of the women in the BP generation, 47% of the women in the X generation and 64% of the women in the Y generation went to regular check-ups/receiving care in their last pregnancy; 75% of the women in the BP generation, 65% of the X generation and 57% of the Y generation had normal vaginal delivery; 87% of women in the BP generation, 91% of the women in the X generation and 93% of the women in the Y generation gave birth in the hospital; it was determined that 79% of the women in the BP generation, 65% of the women in the X generation and 55% of the Y generation were given birth by the midwife. In addition, 79% of the women in the BP generation, 39% of the women in the X generation and 36% of the Y generation perceived their recent labor pain as "severe"; it was found that 16% of the women in the BP generation, 18% of the women in the X generation and 31% of the women in the Y generation described their last birth as "very difficult and scary". There is a statistical difference between generations in terms of the status of women going for regular checkups/care in their last pregnancy, last delivery type, pain perception and birth perception in the last pregnancy, women in the BP generation have fewer regular checkups/receiving care in their last pregnancy, and more vaginal births. It was found that she perceived the birth as easy and

beautiful, and the perception of pain was lower in the last birth (p<0.05), (Table 2).

While 81% of the women in the BP generation, 70% of the X generation and 59% of the Y generation women who participated in the study breastfed their last baby in the first hour; 67% of the women in the BP generation, 65% of the women in the X generation and 50% of the women in the Y generation have at least 6 months of exclusive breastfeeding at their last birth. 18% of the women in the BP generation, 23% of the women in the X generation and 25% of the women in the Y generation experienced psychological problems in the postpartum period during pregnancy and postpartum; 41% of the women in the BP generation, 43% of the X generation and 48% of the Y generation do not need information during pregnancy, childbirth and postpartum processes; it was found that 2% of the women in the BP generation, 12% of the women in the X generation and 56% of the women in the Y generation meet their information needs on social media and internet during pregnancy, childbirth and postpartum processes. The subjects that women in the BP, X and Y generations need information most during pregnancy, childbirth and postpartum processes; birth process and postpartum maternal and infant care (25%, 46%; 18%, 41% and 26%, 53%, respectively). 70% of the women in the BP generation and 72% of the women in the X and Y generations need social support during pregnancy, birth and postpartum periods has stated that he agrees. There is a difference between the generations in terms of the first breastfeeding time of the baby at the last birth, the duration of exclusive breastfeeding for the baby and the person(s) who meet the information needs during pregnancy, birth and postnatal processes; In addition to the fact that women in the BP generation have a higher rate of breastfeeding their babies in the first hour after birth and exclusively breast-feeding for the first six months, it has been determined that the Y generation meets their information needs more on social media/internet during pregnancy, birth and postpartum processes (p<0.05), (Table 2).

Table 3. Comparison of Total and Subscale Mean Scores of MPBS among Generations

Items	BP Generation Mean ± SD Min-max (Median)	X Generation Mean ± SD Min-max (Median)	Y Generation Mean ± SD Min-max (Median)	Test value	p
Experiences during childbirth	22.18±1.78 7-35 (22)	20.29±3.48 7-35 (20)	15.35±3.23 7-35 (25)	0.124	**0.001**[3]
Experiences during the pain period of childbirth	21.37±4.15 7-35 (21)	16.53±4.20 7-35 (16)	14.37±2.89 7-35 (14)	0.005	**0.001**[3]
Postpartum experiences	16.45±5.11 4-20 (16)	11.12±0.12 4-20 (14)	10.03±2.99 4-20 (10	0.145	**0.001**[3]
Spouse's involvement	13.40±2.60 4-20 (13)	14.77±2.26 4-20 (14)	16.86±4.10 4-20 (16)	1.052	**0.001**[3]
Awareness	10.11±7.42 3-15 (10)	12.21±3.65 3-15 (12)	13.77±2.16 3-15 (13)	1.003	**0.001**[3]
Total	84,79 ± 9,92 25-125 (85)	76.32±1.53 25-125 (85)	71.32±11.93 25-125 (71)	0.100	**0.001**[3]

[3] *Kruskal-Wallis tests*

The mean scores of BP, X and Y generation women participating in the study were 84.79±8.32, 79.32±1.53 and 71.32±11.93, respectively. In addition, the mean scores of women in the BP, X and Y generations from the Experiences at Birth sub-dimension of the MPBS were 22.18±1.78, 20.29±3.48 and 15.35±3.23, respectively; the mean scores of the Experiences in the Pain Period of Childbirth sub-dimension were 21.37±4.15, 17.53±4.20 and 14.37±2.89, respectively; the mean scores of the Postpartum sub-dimension were 16.45±5.11, 14.12±0.12 and 10.03±2.99, respectively; the mean scores of the Spouse Participation sub-dimension were 13.40±2.60, 14.77±2.26 and 16.86±4.10, respectively; the mean scores of the Awareness sub-dimension were 10.11±7.42, 12.21±3.65 and 13.77±2.16, respectively. It was found that there was a significant difference between the women's total and

sub-score averages of MPBS between generations; it was found that the total score average of the women in the Y generation was lower than the other generations, and the mean score of the women in the BP generation was higher than the other generations. Except for the sub-dimensions of Spousal Involvement and Awareness of the women in the BP generation, the mean scores of all scale sub-dimensions and the total score of the MPBS are higher than the mean scores of the women in the other generations ($p<0.05$), (Table 3).

DISCUSSION

In this study, conducted to examine intergenerational differences in women's childbirth characteristics and perceptions, it was determined that the majority of women from the BP and generation X had completed primary and middle school, while women from generation Y were predominantly high school graduates. Therefore, it was found that women from generation Y had a higher level of education compared to other generations. This finding from our study is consistent with the literature, as there are studies indicating that individuals from generation Y have higher levels of education compared to other generations.[6,13] Furthermore, while it is gratifying to acknowledge that women from generation Y have higher levels of education, it can be seen as an indicator of the importance given to education in today's society. Moreover, in order to increase the average duration of education in society, compulsory education in Turkey was extended to 12 years with Law No. 6287 in the 2012-2013 academic year.[15] Considering that women from generation Y had their primary education during the period of compulsory education, we believe that their higher level of education is influenced by this factor.

The average ages of first marriage and first pregnancy were found to be similar for women from the BP and generation X, while women from generation Y had higher averages compared to women from other generations. There are numerous findings in the literature that support our study's results. Similarly, to our findings, a study by Hacıvelioglu and Bolsoy (2020) revealed a generational difference in terms of average ages of marriage and first pregnancy, with women from generation Y having higher averages compared to other generations.13 We can attribute this result in our study to the higher level of education among women from generation Y, as women with higher education are more likely to be employed in any occupation, making it more feasible to postpone marriage and first pregnancy to later ages. In fact, it has been noted that the average age of first marriage has increased in our country over the past twenty years, leading to generational differences in the median age of first marriage, and indicating a tendency among women to delay marriage. Considering the negative impact of early-age pregnancies on maternal and child health, it is encouraging that the study shows that the average age of first pregnancy is not too young.

In the study, it was determined that women from the BP generation had higher average numbers of pregnancies and unplanned pregnancies compared to other generations, while women from generation Y had the lowest average numbers of pregnancies and unplanned pregnancies among the generations. Similarly, to our study's findings, the literature also indicates that the average numbers of pregnancies and unplanned pregnancies are lower among women from generation Y.[13,16] We believe that this difference among generations is due to the BP generation women having limited control over their own fertility due to low socio-cultural, economic, and educational factors, as well as limited access to family planning services during that period.

In the study, it was found that women from the BP generation had higher average numbers of total births compared to women from generation X and Y, with women from generation Y having the lowest average number of total births. The total fertility rate

for Turkey is around 2.3 births per woman, and it is observed that this rate is gradually stabilizing.[17] Our study also shows a decreasing trend in fertility rates among women from generation Y, similar to the overall trend in the country. Considering the challenging living conditions and high prevalence of economic difficulties, as well as the perception of lower income levels among women from generation Y in our study, this result is expected and aligns with the current situation.

Prenatal care is crucial for the early detection of maternal and fetal problems, as well as for reducing morbidity and mortality rates.[3] In this study, it was found that women from generation Y attended regular check-ups and received care during their last pregnancy more than women from other generations. According to the Turkish Demographic and Health Survey, the rate of women receiving prenatal care in Turkey increased from 89% in 2013 to 94% in 2018.[17] In our study, the reasons for inadequate prenatal care among women from the BP generation are believed to include the inability to obtain permission from their spouses or families, socio-economic and cultural factors, and limited access to healthcare services. However, we believe that the main reason is the level of education of the women, as an increase in women's education levels in Turkey has been associated with an increase in the rates of receiving prenatal care.

The study revealed that women from the BP generation had a higher rate of normal vaginal births compared to women from other generations, and most of their births were attended by midwives. It was also found that home births decreased over the years and across subsequent generations, and hospital births increased, particularly with an increase in cesarean deliveries. These findings align with the literature, which reports higher rates of cesarean deliveries among women from generation Y, the predominance of hospital-based birth services, and a decrease in births attended by midwives due to the high cesarean delivery rates.[13,19] In Turkey, more than half (52%) of births are cesarean deliveries, with 83% of births being conducted by doctors and 16% by midwives/nurses.[17] Our study also indicates that a significant majority of women from generation Y opted for cesarean deliveries, leading to a decrease in midwife-assisted births and home births. In this context, midwives and nurses should provide education and counseling services to pregnant women as part of prenatal care, explaining the advantages and disadvantages of cesarean and vaginal births. Additionally, implementing deterrent measures to reduce the cesarean rate in hospitals and enhancing the skills of midwives and nurses through technology-compatible training can be beneficial.

In the study, it was observed that 81% of women from the BP generation, 70% from generation X, and 59% from generation Y breastfed their last babies within the first hour after birth. The rate of initiating breastfeeding within the first hour was lower among women from generation Y. Studies examining the timing of initial breastfeeding among women have identified various influencing factors, with intergenerational experiences playing a significant role in breastfeeding behaviors.10 While the World Health Organization (WHO) reports that only 43% of women worldwide breastfeed their babies within the first hour after birth, in Turkey, the rate is 71%.[17,20] In this study, the delayed initiation of breastfeeding among women from generation Y may be attributed to higher rates of cesarean deliveries, post-cesarean complications, and inexperience due to lower birth numbers. Efforts should be made to eliminate factors that hinder babies from receiving breast milk within the first hour after birth, increase the number of mother-and-baby-friendly hospitals, and provide education and support to mothers during the prenatal period regarding breastfeeding.

Although breast milk has many benefits, the exclusive breastfeeding rates of infants have not reached the desired level worldwide and in our country for various reasons.[16] In

our study, it was found that 67% of women from the BP generation, 65% of generation X, and 50% of generation Y (in their recent births) exclusively breastfeed their babies for a minimum of 6 months. Studies have shown that the duration of exclusive breastfeeding is influenced by various factors such as maternal age, mode of delivery, education, and support.[21,22] In our study, the lower rates of exclusive breastfeeding among women from generation Y compared to other generations can be attributed to their employment status, higher rates of cesarean deliveries, and easier accessibility to formula feeding compared to other generations. Additionally, it is emphasized that the importance given to breastfeeding has significantly decreased with the adoption of new technologies and lifestyles. According to the Turkish National Nutrition and Health Survey (2018), the rate of receiving any other food besides breast milk after birth is 42%, and the median duration of exclusive breastfeeding is 1.8 months, with the rate of exclusive breastfeeding for infants younger than two months being 59% and dropping to the 45% range in the third month.[17] While WHO states that 41% of infants under six months are exclusively breastfed worldwide, a nutrition report prepared by the United Nations Children's Fund (UNICEF) in 2019 indicates that this rate is 42%.[20,23] Based on all these results, it can be observed that the rates of exclusive breastfeeding in the first six months of infants are low. Mothers of infants with normal growth and development in the first six months should be informed that their own milk is sufficient for the healthy growth and development of their babies and should be encouraged not to introduce complementary foods during this period. In addition, it is important to increase support systems for mothers, encourage breastfeeding, appreciate breastfeeding mothers, plan education on the importance of breastfeeding starting from pregnancy, and address mothers' knowledge gaps on the subject.

It has been found that women from all generations participating in the study experience psychological problems during pregnancy and postpartum periods at similar rates. This finding of our study is consistent with the literature, indicating that women experience various problems, primarily psychological, during these periods regardless of generational differences, and among the main reasons are lack of information and support.[22,24] Indeed, it has been found that women from all generations participating in this study have a similar need for information and social support, and the individuals they receive the most social support from are primarily their mothers/mothers-in-law, friends, and relatives. In addition, the topics that all women participating in the study feel the need for information during these periods are mostly related to the birthing process, postpartum maternal and infant care. When the literature is reviewed, it is revealed that in many studies, women face difficulties in their own care, caring for their babies, and breastfeeding during the postpartum period, experience various problems, and encounter various psychological difficulties, and they feel the need for social support, primarily expecting it from their spouses and mothers.[21,25] Despite the well-known positive effects of social support during pregnancy, childbirth, and the postpartum period, it is observed that women do not receive sufficient social support from healthcare professionals, mainly due to their inadequate training and heavy workloads. Social support provided by midwives to women will be effective in preventing difficulties in the care of themselves and their babies, and high maternal self-efficacy will significantly contribute to reducing psychological problems. Considering the technological advancements of today, it can be attributed to the fact that women from generation Y meet their information needs more through social media and the internet, as everyone has easy access to the internet.

When the total scores of the MPBS of the women participating in the study are compared, it is found that the average scores of women from the BP generation are higher than the average scores of women from other generations in all sub-dimensions except for

the Spouse's Involvement and Awareness sub-dimensions. Furthermore, the average total score of women from generation Y is lower than the average scores of women from other generations. From these results, it can be said that women from the BP generation have a more positive perception of childbirth, while women from generation Y have lower childbirth perceptions compared to other generations. When the literature is examined, it is seen that our study's finding is similar, Yılmaz and Nazik (2018) found that the average total score of women from generation Y is similar to the result of our study, Aydın and Yıldız (2018) found that their negative perception is higher from the BP generation to generation Y, especially.[2,6] Negative birth experiences become part of the stories of negative birth experiences told for years, and the interventions applied during birth, prolonged pains, anxiety, fear, and feelings of loneliness can lead birth to be perceived as a negative experience passed down from generation to generation, causing women to consider birth as difficult, painful, and unbearable, and resulting in negative expectations and fears about birth.[3,23,26] Therefore, it is stated that experiences affect future experiences, and traumatic events perceived by individuals can also affect the people around them and future generations.[27] In a study conducted in Turkey, it was reported that 24% of women heard negative birth stories, and in a study conducted in Norway, it was reported that 48% were significantly influenced by the negative birth stories they heard.[14] Additionally, in a study conducted by Fenwick et al. (2015) in Australia, it was reported that women's negative stories led pregnant women to fear normal vaginal birth and form negative birth perceptions.[26] In order for women to perceive the birth experience positively, it is considered important for their expectations to be met, for social support during birth to be increased, for them to hear positive birth stories, and for interventions that can lead to negative birth experiences to be minimized.

In the study, it was found that women from generation X mostly described their recent births as "difficult but beautiful," while women from generation Y expressed them as "very difficult and scary." Hacıvelioğlu and Bolsoy (2021) found statistically significant differences in the perception of childbirth among generations, with 77.8% of BP generation women, 44.4% of generation X women, and 21.1% of generation Y women evaluating childbirth as a smooth and beautiful experience.[13] Similarly, Aydın (2018) found that negative perception expressions regarding childbirth were more common in the third generation compared to the first generation, especially among women who had normal vaginal births.[2] Likewise, in a study by Reyhan and Dağlı (2022), it was determined that grandmothers expressed birth as "easy and beautiful" more than younger generations (49.8%).[5] Our study's findings are consistent with the literature, suggesting that older generations have a more positive perception of childbirth. Factors such as births mostly taking place in hospitals, increased interventions during childbirth, and improved living standards have led to a change in the meaning attributed to childbirth by women. They now perceive cesarean sections as "easier and painless" and express more negative sentiments towards vaginal births. Additionally, women's perceptions and expressions regarding childbirth can vary depending on their personal characteristics, expectations, and cultures.[21] In our study, we believe that generation Y women perceiving childbirth as "scary and difficult" can be attributed to these factors and the characteristics of the society they live in. Despite positive developments in healthcare services, traumatic experiences and the information overload caused by communication channels have led women from generation Y to perceive childbirth as more challenging.

Limitations of the Study

One of the limitations of the study is the inclusion of women who volunteered, are literate, own a phone, and use various digital platforms.

CONCLUSION

In the study, it was concluded that women from the BP generation had lower ages at marriage and first pregnancy, higher rates of unplanned and total pregnancies, fewer regular check-ups/care during their last pregnancy, higher rates of vaginal delivery, and higher rates of initiating breastfeeding within the first hour and exclusive breastfeeding for the first six months of their newborns. Additionally, it was found that women from the BP generation had a more positive perception of childbirth, while women from generation Y had lower childbirth perceptions compared to other generations. The results indicate significant changes in women's childbirth experiences and perceptions across three generations. The obtained results are thought to contribute to the structuring of childbirth-related services in line with our culture and generations and to the literature on the subject. It is important to know the effects of women's positive childbirth experiences on future generations, as well as the perception and experiences of childbirth and how they are transmitted from generation to generation. Birth perception not only affects the individual who experiences it but also has the potential to influence women who will give birth after them through positive or negative transmission. It is recommended to question the information transmitted between generations during prenatal visits, ensure that expressions related to positive birth experiences of previous generations are mentioned, and increase awareness by creating public service announcements to promote positive childbirth perceptions and encourage the sharing of positive stories among women.

KAYNAKLAR

1. Türk Dil Kurumu. (2019). Available from: https://sozluk.gov.tr/ (Access date: June 11, 2023).

2. Aydın, N. and Yıldız H. (2018). "Travmatik doğum deneyiminin etkileri ve nesiller arası aktarımı". Journal of Human Sciences, 15 (1), 604-18.

3. Kay, L., Downe, S., Thomson, G. and Finlayson, K. (2017). "Engaging with birth stories in pregnancy: a hermeneutic phenomenological study of women's experiences across two generation". BMC Pregnancy and Childbirth, 17, 283-95.

4. Townsend, M.L., Riepsamen, A., Georgiou, C., Flood, V.M., Caputi, P., Wright, I.M. et al. (2016). "Longitudinal ıntergenerational birth cohort designs: a systematic review of Australian and New Zealand studies. PLoS One, 11 (3), e0150491.

5. Reyhan, A.F., and Dağlı, E. (2022). "Doğum anılarının üç kuşak-kuşaklararası aktarımı ve üçüncü kuşaktaki doğum algısına etkisi". Gümüşhane Üniversitesi Sağlık Bilimleri Dergisi, 11 (3), 1143–50.

6. Yılmaz, E. and Nazik, F. (2018). "Annelerin doğumu algılayışı ile hemşirelik bakımını algılayışı arasındaki ilişki". Jinekoloji-Obstetrik ve Neonatoloji Tıp Dergisi, 15 (2), 52-6.

7. Nugraha, G.I., Herman, H. and Alisjahbana, A. (2017). "Intergenerational effects of maternal birth weight, BMI, and body composition during pregnancy on infant birth weight: Tanjungsari Cohort Study". Indonesia, Asia Pac J Clin Nutr, 26 (1), 19-25.

8. Coşar, F. and Demirci, N. (2012). "Lamaze felsefesine dayalı doğuma hazırlık eğitiminin doğum algısı ve doğuma uyum sürecine etkisi". S.D.Ü Sağlık Enstitüsü Dergisi, 3 (1), 18-30.

9. Jafari, E., Mohebbi, P. and Mazloomzadeh, S. (2017). "Factors related to women's childbirth satisfaction in physiologic and routine childbirth groups". Iran J Nurs Midwifery Res, 22 (3), 219-24.

10. Liu, N., Farrugia, M.M., Vigod, S.N., Urquia, M.L. and Ray, J.G. (2018). "Intergenerational abortion tendency between mothers and teenage daughters: a population-based cohort study". CMAJ, 190 (4), 95-102.

11. Wagner, S., Kersuzan, C., Gojard, S., Tichit, C., Nicklaus, S., Thierry, X. et al. (2019). "Breastfeeding initiation and duration in France: The importance of intergenerational and previous maternal breastfeeding experiences-results from the nationwide ELFE study". Midwifery, 9, 67-75.

12. McCrindle, M., Wolfinger, E. (2010). "Generations defined". Ethos, 18 (1), 8-13.

13. Hacıvelioğlu, D. and Bolsoy, N. (2020). "Üç kuşak kadınların doğum deneyimleri ve doğum algılarının incelenmesi: Batı Anadolu Kırsalı Örneği". ÜSBD, 9 (2), 67–81.

14. Şen, E., Alp Dal, N., Dağ, H. and Sanveli, S. (2015). "The reasons for delivery: related fear and associated factors in western Turkey". Nurs Pract Today, 2 (1), 5-33.

15. Resmî Gazete. (2013). Available from: https://www.resmigazete.gov.tr/eskiler/2012/04/20120411-8.htm (Access date: June 10, 2023).

16. Demir, R. and Taşpınar, A. (2022). "0-12 aylık bebeği olan annelerin ek gıdalara erken başlama nedenlerini etkileyen faktörler". Haliç Üniversitesi Sağlık Bilgileri Dergisi, 5 (2), 73-85.

17. Hacettepe Üniversitesi Nüfus Etütleri Enstitüsü. (2018). "Türkiye Nüfus ve Sağlık Araştırması 2018". https://hips.hacettepe.edu.tr/tr/2018_turkiye_nufus_ve_saglik_arastirmasi-55 (Access date: June 10, 2023).

18. Toker, S. and Çıtak, G. (2020). "Investigation of health indicators of women in reproductive age in turkey according to Turkey demographic and health surveys". J TOGU Heal Sci, 1 (2), 72-84.

19. Okumuş, F. (2017). "Birth experiences of primiparous Turkish women: Public and private hospitals". Journal of Asian Midwives, 4 (1), 35-49.

20. World Health Organization (WHO). (2018). "WHO recommendations: intrapartum care for a positive childbirth experience". Available from: https://www.who.int/publications/i/item/9789241550215(Access date: June 11, 2023).

21. Taghizdeh, Z., Ebadi, A., Dehghani, M., Gharacheh, M. and Yadollahi, P. (2017). "A time for psycho-spiritual transcendence: the experiences of Iranian women of pain during childbirth". Women Birth, 30 (6), 491-96.

22. Tanskanen, A.O. (2017). "Intergenerational relations before and after offspring arrive: a within-person investigation". Soc Sci Res, 67, 138-46.

23. Aktaş, R.F. and Dağlı, E. (2022). "Doğum anılarının üç kuşak-kuşaklararası aktarımı ve üçüncü kuşaktaki doğum algısına etkisi". Gümüşhane Üniversitesi Sağlık Bilimleri Dergisi, 11 (3), 1143-50.

24. MacKinnon, A.L., Yang, L., Feeley, N., Gold, I., Hayton, B. and Zelkowitz, P. (2017). "Birth setting, labour experience, and postpartum psychological distress". Midwifery, 50, 110-16.

25. Heale, R. (2019). "Maternity and postpartum care: perspectives". Evidence-Based Nursing, 22 (2), 42-3.

26. Fenwick, J., Toohill, J., Creedy, D.K., Smith, J. and Gamble, J. (2015). "Sources, responses and moderators of childbirth fear in Australian women: a qualitative investigation". Midwifery, 31, 239-46.

27. Etheridge, J. and Slade, P. (2017). "Nothing's actually happened to me: the experiences of fathers who found childbirth traumatic". BMC Pregnancy and Childbirth, 17, 80-95.

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Ergonomic Risk Factors and Musculoskeletal System Problems In Healthcare Professionals Working In Central Sterilization Unit

Merkezi Sterilizasyon Ünitesinde Çalışan Sağlık Profesyonellerinde Ergonomik Risk Faktörleri ve Kas İskelet Sistemi Sorunları

Doğan BEYSİR[1], Esra EREN[2]

ABSTRACT

This study was conducted to determine ergonomic risk factors and musculoskeletal problems in health professionals working in a central sterilization unit. The study is a descriptive cross-sectional study. The study sample consisted of 87 healthcare professionals working in the central sterilization units of seven hospitals affiliated with a private health group in Istanbul. Data were collected between February and September 2020 using the sociodemographic characteristics form, Ergonomic Risk Factors and Musculoskeletal Disorders Scale (ERFMDS) and Cornell Musculoskeletal Disorders Questionnaire (T-CMDQ). Factor analysis, descriptive statistics, Mann Whitney U test, Kruskal-Wallis H test, post-hoc analysis test and correlation test were used to evaluate the data. Significance level was accepted as $p<0.05$ in all analyzes. According to the data obtained, the mean T-CMDQ scores of the healthcare professionals working in the central sterilization unit were high in the foot region (6.87±9.43) and low in the hand region (1.82±4.38). Healthcare professionals' ERFMDS total dimension scores were high, physical environment, use of appropriate equipment sub-dimension scores were low, and performance efficiency sub-dimension scores were moderate. It was determined that the mean T-CMDQ scores of healthcare professionals were low, and there were significant differences between the mean scores of ERFMDS and T-CMDQ according to some socio-demographic characteristics of healthcare professionals. As a result of the study, it was thought that there was a relationship between musculoskeletal system problems and ergonomic factors that may have a negative effect on the performance level due to the high mean scores of ERFMDS performance efficiency sub-dimension and T-CMDQ foot region.

Keywords: Ergonomics, Central Sterilization Unit, Musculoskeletal System, Occupational Health and Safety.

ÖZ

Bu araştırma merkezi sterilizasyon ünitesinde çalışan sağlık profesyonellerinde ergonomik risk faktörlerini ve kas iskelet sistemi sorunlarını belirlemek amacıyla yapıldı. Çalışma tanımlayıcı kesitsel tiptedir. Araştırmanın örneklemini İstanbul'da özel bir sağlık grubuna bağlı yedi hastanenin merkezi sterilizasyon ünitesinde çalışan 87 sağlık çalışanı oluşturdu. Veriler Şubat-Eylül 2020 tarihleri arasında sosyodemografik özellikler formu, Ergonomik Risk Faktörleri ve Kas İskelet Sistemi Bozuklukları Ölçeği (ERKİSÖ) ve Cornell Kas İskelet Sistemi Bozuklukları Ölçeği (T-CMDQ) kullanılarak toplandı. Verilerin değerlendirilmesinde faktör analizi, tanımlayıcı istatistikler, Mann Whitney U testi, Kruskal-Wallis H testi, post-Hoc analiz testi ve korelasyon testi kullanıldı. Tüm analizlerde anlamlılık düzeyi $p<0,05$ olarak kabul edildi. Elde edilen verilere göre merkezi sterilizasyon ünitesinde çalışan sağlık profesyonellerinin T-CMDQ genel puan ortalamaları ayak bölgesi yüksek (6,87±9,43), el bölgesi ise düşük (1,82±4,38) olarak belirlendi. Sağlık çalışanlarının ERKİSÖ toplam boyut puanları yüksek, fiziksel ortam düzeni, uygun ekipman kullanımı alt boyut puanları düşük, performans etkinliği alt boyut puanları ise orta düzeyde bulundu. Sağlık profesyonellerinin T-CMDQ puan ortalamalarının düşük olduğu, sağlık profesyonellerinin bazı sosyo-demografik özelliklerine göre ERKİSÖ ve T-CMDQ puan ortalamaları arasında anlamlı farklılıklar olduğu tespit edildi. Araştırma sonucunda ERKİSÖ performans etkinliği alt boyut ve T-CMDQ ayak bölgesi ortalamasının yüksek olması, kas iskelet sistemi sorunları ile performans düzeyine olumsuz etki yapabilecek ergonomik faktörler arasında bir ilişki olduğu düşünüldü.

Anahtar Kelimeler: Ergonomi, merkezi sterilizasyon ünitesi, kas-iskelet sistemi, iş sağlığı ve güvenliği.

[1]Uzman Hemşire, Doğan BEYSİR, Balıkesir Atatürk Şehir Hastanesi, Palyatif Bakım Merkezi, dgnbysr@gmail.com, ORCID: 0000-0002-1247-5818
[2]Dr. Öğretim Üyesi, Esra EREN, İstanbul Medipol Üniversitesi, Sağlık Bilimleri Fakültesi, Hemşirelik bölümü, ealver@medipol.edu.tr, ORCID: 0000-0001-5036-9322
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İletişim / Corresponding Author: Esra EREN
e-posta/e-mail : ealver@medipol.edu.tr
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INTRODUCTION

Central sterilization units (CSU), which have a great impact on ensuring sterilization safety and preventing infection, are dynamic structures that collect contaminated materials from other units of the hospital for processing and deliver them back to the units and users, provide uninterrupted service 24 hours a day, 365 days a year, and have an important place for the hospital[1]. The central sterilization unit should be designed as dirty, clean, sterile storage and support areas. CSU area should consist of approximately 35% dirty area, 35% clean area, 20% sterile area and 10% support area[2].

Physical risks to health professionals working in the CSU include ventilation, lighting, wet slippery floors, heating, electricity and fire. When working in the CSU, extremely hot environments can cause heatstroke and inadequate lighting can cause visual impairment in CSU staff. The toxic effects of disinfectants and gases used in the CSU have been more clearly observed when ventilation is inadequate[3]. Electric shock and fire can occur due to leakage or misuse of devices in the CSU environment. Slips, bumps, sprains and injuries can occur due to slippery floors in the working environment. Burns may occur in case of contact with high-temperature materials without protective equipment[4]. Ergonomic risks that play a role in the formation of musculoskeletal system diseases in health institutions can be counted as repetitive movements, force application (such as pushing, pulling), sitting in the wrong posture, working in the wrong posture, lifting heavy loads, standing for a long time and making the materials in the working environment suitable for the employee[5,6].

Many psychosocial risks may arise in CSU workers. These include monotonous work, high workload, doing a lot of work in a short time, working in a closed environment, incompatible or untrained work team, overtime and shift system, inadequate wages, exposure to psychological, verbal and physical violence (mobbing)[4].

Individual factors in the occurrence of work-related musculoskeletal disorders include gender, age, overweight, smoking, and lack of exercise (physical exercise)[7,8]. Disinfectants, antiseptics, and gases such as Ethylene oxide, Formaldehyde, Glutaraldehyde are among the chemical risks faced by healthcare workers in the CSU[3]. Considering biological factors, healthcare workers in CSUs may be exposed to undesirable situations such as splashing of contaminated particles into the eyes and mucous membranes, injury with cutting and sharp medical instruments, especially when handling medical supplies contaminated with infected blood and body fluids in contaminated areas, and as a result, they may be infected with important agents such as Hepatitis B, Hepatitis C and Human Immunodeficiency Virus (HIV)[4]. This study was conducted to identify ergonomic risk factors and musculoskeletal problems in healthcare workers in CSU. At the same time, it was observed that general ergonomics scales were used in ergonomics studies conducted with healthcare workers. For this reason, it was determined that it was necessary to develop a measurement tool for a field-specific and ergonomically risky area such as CSU and the ERFMDS scale was developed within the scope of the research.

MATERIAL AND METHOD

This cross-sectional and descriptive study was conducted to determine the ergonomic risk factors and musculoskeletal problems of healthcare professionals working in CSU. The study was planned in two stages; in the first stage, ERFMDS was developed to determine the ergonomic risk factors of healthcare professionals working in CSU, and in the second stage, the developed scale was applied on the sample. The population of the study consisted of 90 healthcare professionals working in the CSUs of seven hospitals belonging to a private healthcare group in Istanbul between February and September 2020. A total of 87 healthcare workers who could be reached between the data collection dates, who met the research criteria and accepted the research were included in the research sample. Socio-demographic characteristics form, Ergonomic Risk Factors and Musculoskeletal Disorders Scale (ERFMDS) and Cornell Musculoskeletal Disorders Questionnaire (T-CMDQ) were used to collect data. Data collection tools were administered to the participants by face-to-face interview method and the completion time of the forms was approximately 15-20 minutes.

Sociodemographic characteristics form: It is a form consisting of 16 multiple-choice and one open-ended question that includes information about individual characteristics, work and occupational characteristics.

Ergonomic Risk Factors and Musculoskeletal Disorders Scale (ERFMDS): The scale developed by the researchers consists of three sub-dimensions and 30 questions. The scale is a five-point Likert-type scale and the highest score given to the statements is 5 and the lowest score is 1. The highest score that can be obtained from the scale is 150 and the lowest score is 30. The sub-dimensions of the scale are: performance effectiveness, physical environment and use of appropriate equipment. A score of 9-45 points can be obtained from the physical environment sub-dimension, 13-65 points from the performance effectiveness sub-dimension and 8-40 points from the use of appropriate equipment sub-dimension. Following the factor analysis, reliability analysis of the scale was conducted, and a 30-item questionnaire was prepared with a Cronbach's alpha value of 0.906. In the analysis for the reliability of the ERFMDS sub-dimensions, the cronbach alpha reliability coefficient was found as physical environment α=0.893, performance efficiency α=0.888, use of appropriate equipment α=0.837 and the sum of the cronbach alpha reliability coefficients of the 30 statements was 0.906.

Cornell Musculoskeletal Disorder Scale (T-CMDQ): It is a data collection tool developed at the Human Factors and Ergonomics Laboratory at Cornell University to assess musculoskeletal symptoms[9]. The questionnaire assesses the incidence, severity and impact on work of musculoskeletal disorders in 20 different body regions. Scoring for pain frequency is never = 0; 1-2 times a week = 1.5; 3-4 times a week = 3.5; 1 time a day = 5; several times a day = 10. Scoring for severity is low = 1, moderate = 2 and high = 3. The work-related score for discomfort is low = 1, moderate = 2 and high = 3. The total discomfort score for the relevant body part is calculated by multiplying the frequency, severity and work-relatedness (frequency x severity x work-relatedness) scores. The Cronbach's Alpha for the three sub-headings of the questionnaire, namely pain frequency, severity and disability, is 0.88, respectively: 0.89 and 0.88.

Research Questions

- What is the ERFMDS total and sub-dimension mean score of healthcare professionals working in the CSU?
- What is the mean T-CMDQ score of healthcare professionals working in the CSU?
- Is there a significant difference between the mean scores of ERFMDS and T-

CMDQ according to the socio-demographic characteristics of health professionals?

- Is ERFMDS developed by the researchers valid and reliable measurement tool?

Data Evaluation: SPSS (Statistical Package for Social Sciences) 25.0 package program was used for statistical analysis while evaluating the data obtained in the study. Factor analysis, descriptive statistics and correlation analysis were used in the evaluation of the data. In addition, Cronbach Alpha or KR-20 reliability coefficients of the scale and its sub-dimensions were calculated. Mann Whitney U test and Kruskal-Wallis H test were applied to determine whether there was a significant difference between the scale sub-dimensions and T-CMDQ scores and the socio-demographic data of the participants. In addition, in cases where a significant difference was detected in the Kruskal-Wallis H test, post-hoc test was used to determine the direction of the difference. Games-Howell test was used because the variances were not distributed homogeneously, and the sample numbers were not equal. The significance level was set as $p<0.05$ in all analyzes.

Ethical Principles of the Study: Ethical approval was obtained from the non-interventional clinical research ethics committee of a university and study permissions were obtained from the directorates of private health groups. Informed written consent was obtained from the managers of the departments where the study would be conducted and volunteer healthcare workers.

Limitations of the Study: Since CSU is one of the important organizational structures that provide 24/7 service in the hospital, it was deemed appropriate to conduct research on this sample. However, the small number of people working in this field is a limitation of the study. The research was conducted in hospitals affiliated with a private health group and the results of the research cannot be generalized to the entire CSU considering the current conditions.

RESULTS AND DISCUSSION

The data obtained from 87 health professionals who constituted the sample of the study are presented and discussed in this section. Considering the distribution of individual characteristics, 51.7% of the health professionals were male and 48.3% were female. It was determined that 34.5% of the healthcare workers were between the ages of 18-25, 59.8% were underweight-normal weight according to body mass indexes, 52.9% were undergraduate graduates, 74% were nurses and 57.5% of the healthcare workers changed shifts (Table 1).

The total ERFMDS score of health professionals was 119.39±18.98, physical environment sub-dimension score was 36.94±7.25, performance efficiency was 50.86±10.52, and use of appropriate equipment was 31.58±6.15.

When the averages of the sub-dimensions of the scale were examined, it was seen that the mean of the performance efficiency sub-dimension (50.86±10.52) had a higher mean than the physical environment and appropriate equipment use sub-dimensions (Table 2).

When the T-CMDQ mean scores of healthcare workers were analyzed, it was observed that the mean score for the foot region was the highest (6.87±9.43) and the mean score for the hand region was the lowest (1.82±4.38) (Table 3).

Table 1. Distribution of data on individual characteristics of health professionals (n=87)

Demographic variables	Number	%
Gender		
Male	45	51,7
Female	42	48,3
Age		
18 -25	30	34,5
26-35	27	31,0
36-44	23	26,4
45 and older	7	8
Body Mass Index (BMI)		
Underweight-normal weight (24.9 and below)	52	59,8
Overweight (25 and over)	35	40,2
Educational Status		
Health vocational high school	11	12,6
Associate degree	21	24,1
License	46	52,9
Graduate	9	10,3
Job		
Nurse	65	74,7
Health Technician	16	18,4
Health Support Personnel	6	6,9
Working shift		
Continuous daytime	30	34,5
Continuously at night	7	8,0
Shift change	50	57,5

When examined according to the mean scores obtained from the T-CMDQ according to their individual characteristics, the hip region scores of the health professionals were found to be higher in the group aged 45 and over ($p<0.05$). It was found that the foot area scores of the participants in terms of gender were higher in women than in men ($p<0.05$). BMI and back area scores were found to be higher in underweight-normal weight groups than in overweight ones ($p<0.05$). When educational status T-CMDQ scores were compared, it was found that foot area scores were higher in associate degree graduates compared to other education groups ($p<0.05$). Neck region scores were found to be higher in health support personnel compared to other occupational groups ($p<0.05$) (Table 4.).

Table 2. Results related to ERFMDS total and sub-dimension mean scores (n=87)

ERFMDS	Min.- Max.	Mean±Sd
ERFMDS Total score	55-145	119,39±1 8,98
Physical Environment	15-45	36,94±7,25
Performance effectiveness	15-65	50,86±10,52
Use of Appropriate Equipment	15-40	31,58±6,15

Sd: Standard deviation

Table 3. Results regarding T-CMDQ general averages Cornell musculoskeletal regions (n=87)

Cornell Musculoskeletal Regions	Min.- Max.	Mean± Sd
T-CMDQ average score	0-452	77,62±89,33
Neck	0-15	4,74±3,71
Shoulder	0-32	6,37±7,56
Back	0-16	5,25±4,77
Waist	0-16	6,10±4,65
Hand	0-25	1,82±4,38
Hip	0-14	2,94±4,11
Knee	0-22	4,78±6,03
Foot	0-32	6,87±9,43

Sd: Standard deviation

When the ERFMDS total score and sub-dimension scores according to the individual characteristics of health professionals, it was found that the 18-25 age group was higher in the physical environment sub-dimension ($p<0.05$). The performance efficiency scores of the participants' job and ERFMDS sub-dimensions were found to be higher in nurses than in other groups ($p<0.05$). A significant difference was found between the working shifts of health professionals and the physical environment scores of the ERFMDS sub-dimensions ($p<0.05$). Physical environmental scores were found to be higher in the group who constantly worked at night ($p<0.05$) (Table 5). In the study, it was determined that the highest pain in health professionals was in the foot, shoulders, waist and back, respectively. In the literature, it has been determined that there are many musculoskeletal disorders encountered by healthcare professionals[10-17] and researches support this research.

Age has a great impact on physical job success in working individuals. Physical work ability is at its highest level between the ages of 25-30, and while it starts to decrease after these ages, decision-making and experience increase, and the adaptation of the individual to the physical environment becomes difficult with the changes that occur in the musculoskeletal system with age[18]. The fact that the physical environment score is higher in health professionals between the ages of 18-25 compared to other age groups suggests that the health professionals in the 18-25 age group are compatible with the physical environment ($p<0.05$) (Table 5).

The fact that performance efficiency scores are higher in nurses than in other occupational groups suggests that they experience more musculoskeletal disorders than other occupational groups. Studies in the literature support this research [19,20]. In the study, when gender and T-CMDQ scores were compared, a significant relationship was found only between foot area scores and gender. Foot pain is more common in women than in men. When we look at the studies in the literature; it has been determined that the risk of pain in women is higher than in men[21,22] and these studies support this research.

In this study, only hip region scores were found to be higher in the group aged 45 years and above compared to other age groups. In the literature, it has been stated that a one-unit increase in age increases the risk of developing pain by 3.2%, and age is a significant factor on pain[20,21] and researches support this research. In a study in the literature, it was found that poor relationships with managers and colleagues, which are among psychological factors, increase the risk of developing new low back pain 1.85 and 2.41 times [22]. In this study, only the hip region scores of health professionals were found to be higher in the group with a little good communication with their colleagues and managers compared to the group with quite good communication and the study support this research.

Table 4. Comparison of T-CMDQ score averages according to individual characteristics (n=87)

	Individual Characterist.	**Numb er**	**Neck**	**Shoulder**	**Back**	**Waist**	**Hand**	**Hip**	**Knee**	**Foot**
			Mean±Sd	**Mean±Sd**	**Mean±Sd**	**Mean±Sd**	**Mean±Sd**	**Mean±Sd**	**Mean±Sd**	**Mean±Sd**
Age	18-25	30	6,90±13,05	18,38±39,72	16,25±30,32	17,18±27,55	0,73±1,98	2,98±7,35	6,32±17,23	15,47±37,98
	26-35	27	6,67±10,28	5,85±7,57	10,72±18,74	10,83±17,63	1,17±2,77	2,54±4,67	8,72±13,47	16,72±27,04
	36-44	23	7,46±11,30	8,70±15,90	15,37±26,00	19,74±22,84	3,11±7,90	7,24±10,84	8,43±15,87	13,35±25,13
	45>	7	11,5±16,37	2,71±3,95	11,86±6,44	16,64±16,55	2,71±4,86	23,57±17,16	2,14±2,85	14,86±17,43
	X^2/ p		1,246/0.742	1,181/0.758	2,311/0.510	2,844/0.416	1,366/0.714	16,644/**0.001***	5,064/0.167	2,050/0.562
Gender	Male	45	6,70±10,54	10,79±30,07	10,26±19,04	12,43±19,56	0,59±1,78	4,37±8,65	7,70±16,58	8,87±19,15
	Female	42	8,04±13,36	10,55±19,79	17,90±28,88	19,50±25,36	2,80±6,39	6,98±11,93	6,85±13,17	22,08±37,21
	Z/ p		-0,108/0.914	-0,889/0.374	-0,988/0.323	-1,286/0.198	-1,867/0.062	-1,440/0.150	-0,195/0.846	-1,976/**0.048***
BMİ	Weak-normal	52	6,59±11,64	14,75±31,3	19,21±29,67/	18,77±25,43	1,38±3,63	5,67±10,17	8,26±16,74	16,38±32,84
	Overweight	35	8,47±12,43	4,61±10,47	6,13±9,31	11,5±17,32	2,06±6,02	5,56±10,83	5,84±11,89	13,57±25,16
	Z/ p		-0,526/0.599	-1,740/0.082	-2,538/**0.011***	-1,223/0,221	-0,173/0.863	-0,468/0.640	-0,170/0.865	-0,603/0.546
Educational Status	High school	11	2,23±2,65	2,05±3,81	14,41±26,75	17,77±27,29	1,82±6,03	4,14±7,14	1,36±3,64	19,18±31,54
	Associate deg	21	5,88±9,20	13,74±25,53	21,88±34,41	18,40±27,33	1,86±4,74	3,79±7,69	5,60±9,12	29,71±45,74
	License	48	7,79±12,59	7,95±14,60	9,45±15,61	12,08±16,34	1,02±2,77	5,07±9,61	9,77±18,40	6,46±14,96
	Graduate	9	14,72±17,72	28,00±60,22	17,89±30,04	26,78±31,61	4,22±9,23	14,61±17,96	5,78±13,43	21,61±28,19
	X^2 / p		3,922/0.270	3,284/0.350	0,527/0.913	0,793/0.851	2,074/0.557	2,661/0.447	5,867/0.118	8,640/**0.034***
Job	Nurse	65	11,93±4,25	24,91±8,52	19,60±4,97	21,04±4,72	3,49±6,15	9,80±4,80	16,47±5,70	20,48±10,52
	Health tech.	16	5,07±2,60	29,36±5,04	34,54±3,30	30,81±3,86	5,27±2,65	6,16±2,68	9,97±4,11	49,32±11,29
	Health sup.	6	17,75±3,54	23,44±7,27	35,64±4,89	15,24±4,78	11,43±2,86	20,02±3,85	2,51±6,37	40,21±8,49
	X^2/ p		4,982/**0.026***	0,293/0.588	0,246/0.620	0,042/0.838	0,031/0.861	0,498/0.480	0,057/0.811	3,145/0.076
Working shift	Continuous daytime	30	11,99±4,25	23,85±8,52	23,56±4,97	20,44±4,72	7,35±6,15	3,49±4,80	14,04±5,70	29,46±10,52
	Continuously at night	7	5,48±2,60	5,53±5,04	10,19±3,30	6,80±3,86	1,13±2,65	2,93±2,68	5,44±4,11	30,70±11,29
	Shift change	50	12,66±3,54	28,07±7,27	26,59±4,89	25,43±4,78	1,80±2,86	8,71±3,85	16,48±6,37	30,30±8,49
	X^2/ p		1,758/0.415	0,919/0.632	1,092/0.579	0,544/0.762	4,877/0.087	0,694/0.707	3,514/0.173	1,542/0,463

Z; Mann Whitney U test, X^2; Kruskall Wallis test, *p<0,05

Table 5. Comparison of ERFMDS total and sub-dimension mean scores according to individual characteristics (n=87)

	Individual Characteristics	Number	Physical Environment Mean.±Sd	Performance Efficiency Mean±Sd	Use of appropriate equipment Mean±Sd	TOTAL Mean±Sd
Age	18-25	30	38,83±7,10	50,93±9,20	32,23±5,62	122±16,67
	26-35	27	34,11±8,13	50,70±9,85	30,59±6,86	115,41±20,39
	36-44	23	37,52±6,47	50,96±12,84	31,52±6,23	120±19,77
	45age and older	7	37,86±3,85	50,86±12,36	32,86±5,90	121,57±21,62
	X^2/p		8,191/**0.042***	0,579/0.901	0,897/0.826	2,444/0.485
Job	Nurse	65	37,2±6,87	53,17±7,94	31,95±5,96	122,32±17,24
	Health Technician	16	36,69±7,88	43,81±13,31	30,5±6,71	111±18,69
	Health Support Personnel	6	34,83±10,46	44,67±17,05	30,5±7,29	110±29,85
	X^2/p		0,017/0.896	7,079/**0.008***	0,492/0.483	6,000/0.051
Working shift	Continuous daytime	30	38,50±7,79	49,27±13,58	31,47±6,20	119,23±21,57
	Continuously at night	7	39,14±4,22	49,43±11,33	32,29±4,39	120,86±7,29
	Shift change	50	35,70±7,11	52,02±8,14	31,56±6,42	119,28±18,69
	X^2/p		7,320/**0.026***	0,374/0.829	0,053/0.974	0,473/0,790
Gender	Male	45	36,22±7,62	49,38±11,06	31,44±6,38	117,04±19,40
	Female	42	37,71±6,86	52,45±9,8	31,74±5,97	121,90±18,38
	Z/ p		-0,976/0.329	-1,493/0.136	-0,128/0.898	-1.305/0.192
BMI	Weak-normal	52	37,29±7,1	51,38±9,77	31,58±5,88	120,25±18,85
	Overweight	35	36,43±7,56	50,09±11,66	31,6±6,62	118,11±19,32
	Z/ p		-0,517/0.605	-0,403/0.687	-0,486/0.627	-0.572/0.568
Educational Status	High school	11	36±8,6	49,36±13,34	31±9,11	116,36±27,26
	Associate deg	21	35,62±8,62	47,33±13,35	31,05±6,57	114±21,21
	License	48	37,09±6,75	52,59±7,96	31,65±5,54	121,33±16,52
	Graduate	9	40,44±3,4	52,11±10,55	33,22±4,27	125,78±11,12
	X^2/p		2,750/0,432	1,532/0,675	0,952/0,813	2,489/0,477

Z; Mann Whitney U test, X^2; Kruskall Wallis test, *p<0,05

CONCLUSION AND RECOMMENDATIONS

According to the data obtained from this study, it can be said that among the problems related to the musculoskeletal system in health professionals working in CSU; foot, shoulder, waist and back pain are seen. It was observed that the total sub-dimension scores of ERFMDS of health professionals working in CSU were at high level, physical environment, use of appropriate equipment sub-dimension scores were at low level, and performance effectiveness sub-dimension scores were at medium level. It was observed that the mean T-CMDQ score of healthcare professionals working in CSU was low and there were significant differences between the mean ERFMDS and T-CMDQ scores of healthcare professionals according to some socio-demographic characteristics.

It can be recommended to create comfort areas by organizing physical environmental conditions in CSU, to determine ergonomic risk factors, to take necessary precautions and to give importance to ergonomic design to prevent musculoskeletal disorders in healthcare professionals.

REFERENCES

1. Karadayı, A, Aydın, K. and Üçüncü, Osman. (2009). "Examination of Hospital Risky Areas (Operating Room, Intensive Care Unit and Sterilization Unit) Planning/Design and Medical Waste Management in Terms of Infection". 6th National Sterilization Disinfection Congress, 1-5 April, DAS, Antalya.
2. DAS Association. Disinfection and Sterilization Guide. (2015). www.das.org.tr/kitaplar.
3. Arslanoğlu, A. ve Urk, M. (2015). "Employee Safety in the Central Sterilization Unit". Journal of Health Academics, 2(4): 194-203.
4. Disinfection, Antisepsis, Sterilization Association. Disinfection Antisepsis Sterilization Guide, (2019).
5. Özcan, E. ve Kesiktaş, N. (2007). "Occupational Musculoskeletal Diseases Prevention and Ergonomics". Journal of Occupational Health and Safety, 34:6-9.
6. Taşçıoğlu, İ. (2007). "Risks Caused by Work and Working Environment in Lüleburgaz State Hospital and Lüleburgaz 82nd Year State Hospitals and Determination of Nurses' Perception Levels of These Risks". Trakya University, Institute of Health Sciences, Department of Public Health, Master's Thesis, Edirne.
7. Şirzai, H, Doğu, B, Erdem, P, Yılmaz, F. ve Kuran, B. (2015). "Work-Related Musculoskeletal Diseases in Hospital Employees: Upper Extremity Problems". Şişli Hamidiye Etfal Training and Research Hospital Medical Bulletin, 49(2): 135-141.
8. Özcan, E, Esmaeilzadeh, S, ve Başat, H. (2011). "Upper extremity work-related musculoskeletal diseases in computer users and the effectiveness of ergonomics intervention". Turkish Physician Medicine Rehab Journal.; 57:236-241.
9. Erdinç, O, Hot, K. ve Özkaya, M. (2011). "Turkish version of the cornell musculoskeletal discomfort questionnaire: Cross cultural adaptation and validation". Work, 39(3),251-60.
10. Tinubu, BMS, Mbada, C.E, Oyeyemi, A.L. ve Fabunni, A,A. (2010). "Work-Related Musculoskeletal Disorders among Nurses in Ibadan, South- west Nigeria: a cross- sectional survey". BMC Musculoskeleltal Disorders, 11(12):1-8.
11. Tezel, A. (2005). "Musculoskeletal complaints among a group of Turkish nurses". Int j Neurosci; 115: 871-880.
12. Hou, J.Y. ve Shiao, JSC. (2006). "Risk factors for musculoskeletal discomfort in nurses". J Nurs Res; 14 (3): 228-236.
13. Smith, D.R, Mihashi, M, Adachi, Y, Koga, H. ve Ishitake, T. (2006). "A detailed analysis of musculoskeletal disorder risk factors among Japanese nurses". J Safety Res; 37: 195-200.
14. Yip, V. Y. B. (2004). "New low back pain in nurses: work activities, work stress and sedentary lifestyle". JAN Informing Practice and Policy Worldwide Through Research and Scholarship, 430-440.
15. Deniz, F, Alçelik, A, Yeşildal, N, Mayda, A. S. ve Ayakta Şerifi, B. (2005). "Health survey and life habits of nurses who work at the medical faculty hospital at AIBU". TAF Preventive Medicine Bulletin, 4(2), 55-65.
16. Yörükoğlu, K, Sayıner, A. ve Akalın, E. (2005). " Occupational health hazards and safety guidelines in histopathology laboratory". Aegean Pathology Journal 2; 98-115.
17. İlçe, A. (2007). "Investigation of Ergonomic Factors in Intensive Care Units". Ege University, Institute of Health Sciences, PhD Thesis, İzmir.
18. Öztürk, H, Babacan, E, Anahar, E. Ö. (2012). "Occupational Safety of Health Personnel Working in the Hospital". Gümüşhane University Journal of Health Sciences /Gümüşhane University Journal of Health Sciences: 2012;1(4) pp:1.
19. Karahan, A, Kav, S, Abbasoglu, A. ve Dogan, N. (2009). "Low back pain: prevalence and associated risk factors among hospital staff". Journal of Advanced Nursing, 65(3), 516-524.
20. Cımbız, A, Uzgören, N, Aras, Ö, Öztürk, S, Elem, E. ve Aksoy, CC. (2007). "Determination of risk factors for pain in the musculoskeletal system by logistic regression analysis: a pilot study". Physiotherapy Rehabilitation 2007;18 (1): 20-27.
21. Duyum, A. (2018). "Determining the factors that cause work-related musculoskeletal disorders in healthcare workers by numerical methods". Mersin University, Institute of Science and Technology, Department of Occupational Health and Safety.
22. Yip, Y.B. (2002). "The association between psychosocial work factors and future low back pain among nurses in Hong Kong: a prospective study". Psychology, Health & Medicine, 7(2),223-233.

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Spiritual Well-Being and Depression, Anxiety, Stress Levels and Related Factors of Healthcare Professionals: An Example from Turkey*

Sağlık Profesyonellerinin Spiritüel İyi Oluş Düzeyi ve Depresyon, Anksiyete, Stres Seviyeleri ve İlgili Faktörler: Türkiye'den Bir Örnek

Gönül GÖKÇAY[1], Şafak AYDİN[2]

ABSTRACT

The aim of this study was to determine spiritual well-being and depression, anxiety, stress levels and related factors in healthcare professionals in a descriptive, cross-sectional type of study. The research sample consisted of 604 healthcare professionals working in Kars province. Socio-demographic Information Questionnaire, Three-Factor Spiritual Well-being Scale and Depression-Anxiety-Stress Scale-21 forms were used as data collection tools. The research data were evaluated with the SPSS 26.0 package program. Number, percentage, mean, standard deviation, t and f tests, correlation and regression analyzes were used to evaluate the data. Healthcare professionals scored 103.25 ± 17.88 points on the spiritual well-being scale, 9.75 ± 5.09 points on depression, 9.01 ± 4.94 points on anxiety, and 9.90 ± 4.76 points on stress. The participants' gender, substance use status, age, being a child, income level, working year and occupation and spiritual well-being differed significantly ($p<.005$). While 37.9 % of the healthcare professionals had severe or extremely severe depression, 44.2 % experienced extremely severe anxiety and only 32.3 % experienced normal level of stress. A negative weak relationship was found between healthcare professionals' spiritual well-being and depression anxiety and a very weak relationship was found between spiritual well-being and stress.

Keywords: Healthcare professionals, Spiritual well-being, Depression, Anxiety, Stress.

ÖZ

Bu çalışmanın amacı, sağlık profesyonellerinde spiritüel iyi olma düzeyini ve depresyon, anksiyete, stres düzeylerini ve ilgili faktörleri belirlemektir. Bu çalışma tanımlayıcı kesitsel tipte bir araştırmadır. Araştırmanın örneklemini Kars ilinde çalışan 604 sağlık profesyoneli oluşturdu. Sosyo-demografik Bilgi Anketi, Üç Faktörlü Spiritüel İyi Oluş Ölçeği ve Depresyon-Anksiyete-Stres Ölçeği-21 formları veri toplama araçları olarak kullanıldı. Araştırma verileri SPSS 26.0 paket programı ile değerlendirildi. Verilerin değerlendirilmesinde sayı, yüzde, ortalama, standart sapma, t ve f testleri, korelasyon ve regresyon analizleri kullanıldı. Sağlık profesyonelleri spiritüel iyi oluş ölçeğinden 103.25 ± 17.88 puan, depresyon 9.75 ± 5.09 puan, anksiyete 9.01 ± 4.94 puan ve stres 9.90 ± 4.76 puan aldılar. Katılımcıların cinsiyet, madde kullanım durumu, yaş, çocuk sahibi olma durumu, gelir düzeyi, çalışma yılı ve mesleklerine göre spiritüel iyi oluş düzeyi anlamlı bir şekilde farklılık gösterdi ($p<.005$). Sağlık profesyonellerinin % 37.9'u ciddi veya aşırı derecede depresyon yaşarken, % 44.2'si aşırı derecede anksiyete yaşadı ve sadece % 32.3'ü normal düzeyde stres yaşadı. Sağlık profesyonelleri arasında spiritüel iyi oluş ile depresyon, anksiyete arasında negatif zayıf bir ilişki bulundu ve spiritüel iyi oluş ile stres arasında çok zayıf bir ilişki bulundu.

Anahtar Kelimeler: Sağlık profesyonelleri, Spiritüel iyi oluş, Depresyon, Anksiyete, Stres.

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[1] Asst. Prof. Gönül GÖKÇAY, Public Health Nursing, Kafkas University, Faculty of Health Sciences, Department of Public Health Nursing, gokcaygonul22@gmail.com, ORCID: 0000-0003-0140-8668
[2] Asst. Prof. Şafak AYDİN, Psychiatric Nursing, Kafkas University, Atatürk Health Services Vocational School, Department of Health Care Services, safakaydin1103@hotmail.com, ORCID: 0000-0001-8871-7652

İletişim / Corresponding Author: Gönül GÖKÇAY
e-posta/e-mail: gokcaygonul22@gmail.com

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INTRODUCTION

Spirituality is an innate tendency that is unique to all people. This spiritual inclination moves the individual towards knowledge, love, understanding, peace, hope, transcendence, connection, compassion, well-being, and wholeness.[1,2] Spirituality includes one's capacity for creativity, growth, and development of a value system and encompasses a variety of phenomena, including experiences, beliefs, and practices. Spirituality is addressed from various perspectives, including psychospiritual, religious, and interpersonal.[3] Although spirituality is an intangible, invisible thing, it is an important part of the individual as a concept felt by the soul and the heart window and felt through the mind.[4] Simsen (1986) sees sprituality as the basic perception of the individual in every element he/she has in the metaphysical field.[4,5] Spiritual well-being is associated with positive emotions affecting mental and physical health[6] and spiritual, emotional and mental well-being.[7] Sprtual well-being is defined as a continuous and dynamic reflection on the mental health and maturity of the individual.[8] Sprtual well-being also helps individuals cope with stressful life events.[9] There is evidence that researches on the positive relationship of spirituality with physical and mental health have increased and that religious beliefs and well-being were associated.[10] Both nursing and medical professions have recognized the importance of meeting the spiritual and religious needs of patients.[11]

During the pandemic process which the study was conducted, there are many studies on the negative psychological effects of the pandemic in many countries affected by the pandemic.[12,13] Although the studies were made for different sample groups, it was found that the pandemic causes anxiety, anxiety and depression.[14,15]

Aim and duration of the study: The aim of this study conducted between November 2021 and February 2022 was to examine the spiritual well-being and depression, anxiety, stress levels and related factors of healthcare professionals.

MATERIAL and METHODS

Type of the study

It is a descriptive, cross-sectional type of study.

Research Questions

1) What are the spiritual well-being levels of healthcare professionals?
2) What are the depression, anxiety and stress levels of healthcare professionals?
3) Is there a relationship between the socio-demographic data of healthcare professionals and their spiritual well-being levels?
4) Is there a relationship between the socio-demographic data of healthcare professionals and their depression, anxiety and stress levels?

Location and characteristics of the study

This study was conducted on online (via Google forms) platforms for healthcare professionals working in any institution in Kars province.

Population-Sample

The research population consists of a total of 2686 healthcare professionals, 2170 healthcare professionals working in Kars province[16] and 516 healthcare professionals working in Kars Health Application and Research Center, registered in the regional health statistics data system of Turkey Statistical Institute in 2019. While determining the sample size, the sample size was calculated as 336 individuals using the sample calculation with known population. In order to expand the number of samples and reach more individuals, it was aimed to reach

534 individuals based on 99% confidence level and the study was completed with 604 healthcare professionals.

Data Collection Tools

Socio-Demographic Information Qustionnaire

It is a form consisting of 14 questions including socio-demographic characteristics and affecting other factors prepared by the researchers in line with the literature.[17-19]

Three-Factor Spiritual Well-Being Scale (SWB)

The SWB Scale created by Ekşi and Kardaş (2017) for adults consists of 29 items.[17] The answers given in the five-point Likert-type scale are scored from one to five as "not suitable for me at all – completely suitable for me". There are 3 sub-dimensions in the scale. When the Cronbach's Alpha values of the scale were examined, transcendence was determined as .953; harmony with nature as .864; anomie as .853; the total value was determined as .886. High scores obtained from the scale indicate that individuals have high levels of SWB and low scores obtained indicate low levels of SWB.[17] In this study, the Cronbach's Alpha value of the scale for transcendence was found to be .946; for harmony with nature, .901; for anomie, .810; for the total value of the scale was found to be .943.

Depression-Anxiety-Stress Scale-21 (DAS-21)

The DAS Scale was developed by Lovibond and Lovibond in 1995 and turned into a short form of the 21-item scale.[18] Sarıçam conducted the Turkish validity and reliability study of the scale in 2018.[19] The scale, which consists of three sub-dimensions, is in Likert-type and each sub-dimension consists of seven items. The scale is scored as never =0, sometimes and occasionally=1, quite often = 2, always=3, and each sub-dimension is between 0-21 points. The increase in the score of the individual on the scale indicates that the level of Depression, Anxiety and Stress increases.

- Regarding depression sub-dimensions, normal (0-4 points), mild (5-6 points), moderate (7-10 points), severe (11-13 points) and extremely severe (14 points and above) are indicators of depression.

- Regarding anxiety sub-dimensions; normal (0-3 points), mild (4-5 points), moderate (6-7 points), severe (8-9 points) and extremely severe (10 points and above) are the indicators of anxiety.

- Regarding stress sub-dimensions, normal (0-7 points), mild (8-9 points), moderate (10-12 points), severe (13-16 points) and extremely (17 points and above) are indicators of stress.

Cronbach's Alpha coefficient of depression sub-dimension in the validity and reliability study was found to be .87, anxiety sub-dimension .85 and stress sub-dimension .81.[18] In this study, the Cronbach's Alpha value of the depression sub-scale was found to be .849, anxiety sub-dimension .888 and stress sub-dimension .889

How Data was Collected

The questionnaire prepared for the research was sent to healthcare professionals via social media (Whatsap, facebook) with the adaptation program (doc.google) and they were asked to fill in. Only those who wanted to participate in the study voluntarily were able to access other questions after approving them. It was estimated that each questionnaire lasts 15-20 minutes.

Evaluation of Data

The data obtained in the study were evaluated by the researcher using the SPSS (Statistical Package for Social Sciences) 26.0 package program on the computer. In the study, the data were evaluated using number, percentage, mean and standard deviation descriptive statistics. This test was chosen because it was reported in the literature that the Kolmogorov- Smirnov test should be preferred for the normal distribution suitability of quantitative variables.[20] t-test analysis and one-way analysis of variance test were used in independent groups for variables with normal distribution regarding the

difference between the groups. Correlation and Hierarchical Regression Analysis were applied for the effect among the data. The level of significance in statistical analysis was found to be $p<.05$.

Ethical Principles

- Permission to use the scale was obtained from the researchers who developed the scales for the study.
- Board permission was obtained from the Ethics Committee of the Faculty of Health Sciences of the University with the number 81829502.6903/266 dated 30.11.2021.
- The individuals to be included in the study were included in the study on a voluntary basis (only the individuals who wanted to participate were included in the study by answering the questionnaire).
- The identity information of the people participating in the study was not obtained.

Inclusion criteria for volunteers

Working as a health professional in Kars province, volunteering to participate in the research

Exclusion criteria for volunteers

Wishing to leave the study at any stage of the study.

Expected benefit from the research

It is to provide institutional, managerial and professional benefits by determining SWB and the depression, anxiety, stress levels of healthcare professionals and related factors. In addition, it was aimed to contribute to the scientific literature in the field of healthcare professionals and public health and to contribute to the studies.

Research Strengths and Limitations

The limitations of the study are that the research was conducted online and that the results can only be generalized to the participants who had internet access and agreed to participate in the study.

Statements & Declarations

Funding

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Competing ınterests

The authors have no relevant financial or non-financial interests to disclose

Consent to participate

Informed consent was obtained from all individual participants included in the study.

Research Data Policy and Data Availability Statements

The datasets generated during and/or analysed during the current study are not publicly available due ethical sensitivity but are available from the corresponding author on reasonable request.

RESULTS and DISCUSSION

A total of 604 healthcare professionals participated in this study. As seen in Table 1, 62.7% of the healthcare professionals ~~participants~~ were women, 40.9% were between the ages of 26-35, 57.5% were single, 41.2% had two children (health professionals with children), and 75.8% were living in the province. 81.8% of the of the participants had a moderate income level, 56.1% did not use any substance, 74.2% belonged to the nuclear family, 47.4% had bachelor's degree, 87.7% did not have chronic disease, 52.5% worked in secondary health care institutions, 41.9% worked as nurses and 32.0% worked in internal medicine service.

Table 1. Distribution of Participants' Socio-Demographic Data (N=604)

	n	%		n	%
Gender			**Education status**		
Male	225	37.3	High school	67	11.1
Female	379	62.7	Associate Degree	187	31.0
Age			License	286	47.4
18-25 years old	212	35.1	Graduate	64	10.6
26-35 years old	247	40.9	**Presence of chronic disease**		
36 years and older	145	24.0	Yes	74	12.3
Marital status			No	530	87.7
Married	232	38.4	**Year of study**		
Single	347	57.5	Less than a year	93	15.4
Divorced	25	4.1	One–five years	273	45.2
Number of children (n=257)			Six to ten years	156	25.8
None	60	23.3	Eleven years and above	82	13.6
One	57	22.2	**Worked Unit**		
Two	106	41.2	1st level health institutions	120	19.9
Three or more	34	13.2	2nd level health institutions	317	52.5
Living place			3rd level health institutions	167	27.6
Province	58	75.8	**Position held**		
Town	112	18.5	Nurse	253	41.9
Village	34	5.6	Doctor	76	12.6
Income status			Midwife	61	10.1
Low	80	13.2	Technician, secretary	214	35.4
Middle	494	81.8	**Worked service**		
High	30	5.0	COVID 19 service	51	8.4
Substance use			Family health center	33	5.5
Not using	339	56.1	Intensive care	61	10.1
Using (Smoking or alcohol)	265	43.9	Emergency service	103	17.1
Family structure			Internal medicine service	193	32.0
Nuclear family	448	74.2	Surgical service	104	17.2
Extended family	130	21.5	Bloodletting and other services	59	9.8
Broken family	26	4.3			

%: Yüzde

Participants, healthcare professionals scored 55.54±13.02 points from the SWB Scale Transcendence sub-dimension and 26.96±6.19 points from the Harmony with Nature sub-dimension. They obtained 21.24±6.17 points from the Anomie sub-dimension and 103.25 ±17.88 points from the SWB Scale. It was found that the mean Depression score of the Healthcare professionals was 9.75±5.09; the mean Anxiety score was 9.01±4.94 and the mean Stress score was 9.90±4.76.

As seen in Table 2, a statistically significant difference was found between the SWB scale of healthcare professionals and their gender, substance use, age, marital status, number of children, income level, working year and positions ($p<.005$). The mean scores of the SWB scale of women were found to be higher than men; those who did not use any substance than those who used substances; those who were 35 years of age or younger than those who were 36 years of age or older; those who were single than married individuals; those who had no children than whose with children; those who had a moderate income level than those with lower income; those who have been working for 5 years or less than those working for 6-10 years; and those who worked in nurses, midwives and other positions than doctors ($p<.005$).

No significant relationship was found between SWB and the place where healthcare professionals live, family structure, educational status, chronic disease status, the unit they work in and the service they work in (p>.05).

The scores of the participants on the DAS-21 scales are given in Figure 1. While 37.9% of healthcare professionals had severe or extremely severe depression, 44.2% experienced extremely severe anxiety and only 32.3% experienced normal level of stress. It was investigated whether there was a relationship between depression, anxiety and stress and demographic data of healthcare professionals, and as a result of the statistical research, it was found that there was no statistical significance of any demographic data.

As seen in Table 3, it was determined that there was a very weak negative relationship found between the participants' SWB Scale "transcendence" sub-dimension and depression (r=-.140; p=.001) and anxiety (r=-.148; p<.001). A very weak negative relationship was found between the participants' SWB Scale "Harmony with nature" sub-dimension and depression (r=-.121; p=.003) and anxiety (r=-.185; p<.001). A weak positive relationship was found for the participants' SWB Scale "Anomie" sub-dimension and depression (r=.347; p<.001), anxiety (r=.305; p<.001) and stress (r=.314; p<.001). It was determined that there was a very weak negative relationship found between the participants' SWB Scale total score and depression (r=-.263; p<.001) and anxiety (r=-.278; p<.001) and stress (r=-.189; p <.001).

Table 3. The Relationship between The Participants' SWB Scale Sub-Dimensions and Scale Total Scores and DAS Scale scores

		Depression	Anxiety	Stress
Transcendence	**r**	-.140**	-.148·	-.078
	p	**.001**	**<001**	.055
Harmony with	**r**	-.121**	-.185**	-.069
Nature	**p**	**.003**	**<001**	.089
Anomie	**r**	.347**	.305**	.314**
	p	**<001**	**<001**	**<001**
SWB Scale	**r**	-.263**	-.278**	-.189**
Total	**p**	**<001**	**<001**	**<001**

**.The relationship was significant at the 0.01 level (p<.01)

Figure 1. Distribution of the Participants' DAS Scale Findings (N=604)

Table 2: Comparison of Some Socio-Demographic Characteristics and SWB Scale Findings (N=604)

		n	Mean ± SD	Test/p
Gender	Male	225	3.40±.59	t =-5.000
	Female	379	3.65±.60	**p<.001**
Substance Use	Non-users	339	3.67±.60	t =5.481
	Substance user	265	3.40±.60	**p<.001**
Age[1]	18-25 years old (a)	212	3.74±.55[c]	F=26.354
	26-35 years old (b)	247	3.56±.62[b]	**p<.001**
	Age 36 and older (c)	145	3.28±.59[a]	
Marital status	Married (a)	232	3.48±.62[a]	F=4.456
	Single (b)	347	3.62±.60[b]	**P=.012**
	Widow (c)	25	3.39±.58	
Number of children [1]	none (a)	60	3.70±.64[b]	F=4.234
	1 (b)	57	3.32±.65[a]	**p=.006**
	2 (c)	106	3.45±.57[a]	
	3 and more (d)	34	3.38±.58[a]	
Income level[1]	Low (a)	80	3.35 ±.55[a]	F=7.709
	Moderate (b)	494	3.60±.61[b]	**p<.001**
	High (c)	30	3.36 ±.68	
Years worked[2]	Less than a year (a)	93	3.68 ±.52[b]	F=3.555
	1-5 years (b)	273	3.58 ±.61[b]	**p=.014**
	6-10 years (c)	156	3.43 ±.60[a]	
	11 years and more (d)	82	3.57 ±.71	
Position held[1]	Nurse (a)	253	3.57±.58[b]	F=6.899
	Doctor (b)	76	3.29±.55[a]	**p<.001**
	Midwife (c)	61	3.73±.56[b]	

	Technician, secretary (d)	214	3.59 ±.66[b]

SD: Standard Deviation [1] Bonferroni test applied [2] LSD test applied [3]a<b<c

In the study, hierarchical regression analysis was performed in order to reveal the effects of Depression, Anxiety and Stress levels on the Spiritual Well-Being of the participants (Table 4).

Statistical estimates for Model 1 show that the model is significant and usable (F(1.602)= 44,853, p=0.000). The level of depression explains 6.8% of the total variance of the level of spiritual well-being. In the regression model, when the t test results regarding the significance of the regression coefficient are examined; it was determined that the increase in the depression level of the participants (t = -6.697, p< 0.001)) caused a statistical decrease in the level of "Spiritual Well-Being" (Table 4).

Statistical estimates for Model 2 show that the model is significant and usable (F(2.601)= 26.124, p=0.000). Depression and anxiety levels explain 7.7% of the total variance of Spiritual Well-being. In the regression model, when the t test results regarding the significance of the regression coefficient are examined; It was determined that the increase in the anxiety level of the participants (t= -2.637, p= 0.009) caused a statistical decrease in the level of "Spiritual Well-Being". It was determined that the change in the Depression level did not affect the Spiritual Well-Being level (t=-1.391, p=0.165, R2 change=0.011) (Table 4).

Statistical estimates for Model 3 show that the model is significant and usable (F(3.600)= 20.574, p=0.000). Depression and anxiety levels explain 8.9% of the total variance of Spiritual Well-being. In the regression model, when the t test results regarding the significance of the regression coefficient are examined; It was determined that the increase in the Depression level of the participants (t= -2.691, p= 0.007), and the increase in the Anxiety level (t= -3.617, p= 0.000) caused a statistical decrease in the "Spiritual Well-Being" level. It was determined that the increase in the stress level (t= 2.966, p= 0.003) caused the "Spiritual Well-Being" level to increase statistically (t=-1.391, p=0.165, R2 change=0.013) (Table 4).

Table 4. Hierarchical Regression Analysis Between SWB Scale and DAS Scale Scores of the Participants

Predictive Variables	**Spiritual Well-Being Scale (Dependent variable)**				
	B	**SD**	**β**	**t**	**p**
Model 1					
(Constant)	111.888	1.468		76.241	**.000**
Depression	-.924	.138	-.263	-6.697	**.000**
Model 2					
(Constant)	112.839	1.504		75.014	**.000**
Depression.	-.356	.256	-.101	-1.391	.165
Anxiety	-.694	.263	-.192	-2.637	**.009**
Model 3					
(Constant)	111.085	1.607		69.115	**.000**
Depression.	-.788	.293	-.225	-2.691	**.007**
Anxiety	-1.032	.285	-.286	-3.617	**.000**
Stress.	.892	.301	.238	2.966	**.003**
R	Model 1: 0.263		Model 2: 0.283		Model 3: 0.305
R^2 /Adjusted R^2	Model 1: 0.069 /0.068		Model 2: 0.080 /0.077		Model 3: 0.093 /0.089
R^2 Change	Model 1: 0.069		Model 2: 0.011		Model 3: 0.013
F	Model 1: 44.853		Model 2: 26.124		Model 3: 20.574

There are various studies showing that the mental health of healthcare professionals is affected by their work environments or due to the increasing workload during the COVID-19 pandemic.[12,13,15,21] On the other hand, when the literature is examined, although there is study on the sample of nurses[22] in the field of health, no study has been found in which the mixed group is included and its relationship with DAS in particular. In this respect, it is thought that this research will contribute to the literature since it examines SWB and depression, anxiety and stress levels and related factors in healthcare professionals.

In this study, it was found that the participants exhibited moderate SWB (103.25±17.8). SWB is a protective factor against psychological and physiological diseases,[23] which greatly affects people's personal and social lives and has significant effects on increasing treatment success and recovery.[24] At the same time, SWB is expressed as a positive mind framework that leads to healthy behavior.[25] It is stated that the nurse group is the most susceptible group to SWB and spiritual care among healthcare professionals.[26] In studies conducted with the nurse sample, they found that the SWB scores were higher than our sample of healthcare workers, however moderate[25]and relatively high results.[27] In the studies of Şahin and Bülbüloğlu (2022),[28] it was also found that preoperative nurses had good level SWB. Another remarkable result in this study was that nurses, midwives and other personnel has a higher level of SWB than doctors.

In this study, the mean scores of the SWB scale of women were found to be higher than men; those who did not use any substance than those who used substances; those who were 35 years of age or younger than those who were 36 years of age or older; those who had a moderate income level than those with lower income; those who have been working for 5 years or less than those working for 6-10 years ($p<.005$). In the study, there were results consistent with the literature that show difference between women's and men's SWB.[29] This situation is emphasized that it may be caused by emotional expression and cultural differences.[30] In the study, the decrease in SWB as the age increased and the working year increased was found to be similar to the study of Jahandideh et al. (2018).[28] In the study, unlike others,[31,32] it was found that single people had higher SWB than married people and those without children. It is thought that the reason why the study findings differed from other studies might be related to the differences, diversity and cultural structure of the working environment.

In the study, 37.9% of healthcare professionals were found to be in severe or extremely severe depression. According to the results of a study conducted by Naldan et al. (2019)[33] on healthcare personnel, depression levels were found to be significantly higher. According to an integrative review of the scientific literature and a review study conducted with 25 articles during Covid-19, the depression levels of healthcare professionals were found to be significantly higher.[34] As a result of quantitative research in Europe and America, moderate and high levels of depression were observed in healthcare professionals.[35] In the results of a meta-analysis study conducted with 8 articles, it was found that healthcare professionals struggling with Covid-19 were more severely affected by psychiatric disorders such as depression than other occupational groups.[36] Our research is in line with the literature and in line with these results, it is thought that the depression rates of healthcare professionals were high as a result of both the general workload and the working conditions they were exposed to such as mental pressure, irregular work program and long shifts during the pandemic process.

In our study, anxiety levels of healthcare professionals were found to be very advanced at a rate of 44.2%. It was found that healthcare professionals working in patients affected by Covid-19 in Wuhan, China were at a statistically high risk in terms of anxiety and an associated psychiatric symptom.[37] Considering the results of various studies conducted in various countries, it is seen that the anxiety levels of healthcare professionals

are above normal.[36,37] Our research is in parallel with the literature. It is thought that the high anxiety levels of healthcare professionals may be due to factors such as fear of contracting the disease and transmitting it to their relatives, isolation or social stigma, high levels of stress in the workplace or insecure attachment patterns due to the ongoing pandemic process at the time the data were collected.

In our research results, the stress levels of healthcare professionals were found to be mild, moderate, severe and extremely severe with 67.8% and 28% at severe and extremely severe stress levels. As a result of a study conducted by Can and Avçin (2021)[38] on stress in Turkish healthcare professionals, it was found that individuals under the age of 30 had high stress levelds. According to the results of a study on stress and stress management in healthcare professionals, it was found that healthcare professionals generally experienced above-average stress.[39] According to the results of another study, the stress level of healthcare professionals during the COVID-19 pandemic was found to be 73.4%.[13] It is seen in large-scale meta-analysis studies that healthcare professionals are under more stress during the pandemic than other occupational groups.[37] The results of a study conducted with 2076 healthcare professionals showed that the main cause of anxiety or stress in healthcare professionals was due to the fear of transmitting the Covid-19 virus to their families.[40] Our study is in line with the literature. It is thought that the stress levels of healthcare professionals caused by the ongoing pandemic process were significantly higher both in terms of occupational workload stress and the dates on which the data of the study were collected.

A weak negative relationship was found between participants' SWB Scale total score and depression ($r=-.263$; $p<.001$) and anxiety ($r=-.278$; $p<.001$) and stress ($r=-.189$; $p<.001$). At the same time, it was found that depression, anxiety and stress scores significantly predicted the SWB scores of the participants and explained 8.9% of the variance in DAS levels. SWB has a negative effect on anxiety and depression of individuals. High SWB has been associated with low anxiety and depression.[31] In other words, in the literature, low SWB is a risk factor for anxiety and depression.[35]

CONCLUSION and RECOMMENDATIONS

In this study, it was found that the healthcare professionals exhibited moderate SWB, 37.9% experienced severe or extremely severe depression, 44.2% experienced extremely severe anxiety, and only 32.3% experienced normal stress. The participants' gender, substance use status, age, being a child, income level, working year and occupation and spiritual well-being differed significantly ($p<.005$). It was determined that the negative weak relationship found between healthcare professionals' SWB and depression and anxiety and the very weak relationship found between SWB and stress, and SWB levels explained 8.9% of the variance in depression, anxiety and stress levels. As a result of the research, it is recommended to plan trainings on SWB including men, substance users, people aged 36 and over, married people and with children, low-income people and doctors, and to present practices to individuals including stress management, and that will reduce anxiety and depressive effects of healthcare professionals. It is thought that evidence-based studies should be made with larger-scale and experimental studies.

Based on the findings, the study suggests several recommendations:

- Implementing SWB training programs tailored to specific demographics, including men, substance users, older individuals, married individuals with children, low-income individuals, and doctors.
- Providing stress management practices and interventions to alleviate the anxiety and depressive effects experienced by healthcare professionals.
- Advocating for evidence-based studies on a larger scale and

implementing experimental studies to further understand and address mental health challenges among healthcare professionals.

REFERENCES

1. Mayseless, O. and Russo-Netzer, P. (2017). "A Vision for the Farther Reaches of Spirituality: A Phenomenologically Based Model of Spiritual Development and Growth". Spirituality in Clinical Practice, 4 (3), 176. https://doi.org/10.1037/scp0000147
2. Çevirme, A., Kaynak, Ö. ve Gökçay, G. (2020). "Bir Grup Üniversite Öğrencisinde Sosyo-Demografik Özellikler ve Tinsellik Arasındaki İlişki". Sakarya Üniversitesi Holistik Sağlık Dergisi, 3 (2), 98-111. https://dergipark.org.tr/en/download/article-file/1639817
3. Lu, J. Woo, H. and Huffman. K. (2018). "Spiritual Competency Scale: A Confirmatory Factor Analysis". Measurement and Evaluation in Counseling and Development, 51 (4), 219-234. https://doi.org/10.1080/07481756.2018.1435191
4. Genç, Y. ve Durğun, A. (2018). "Manevi Bakımın Gerekliliği ve Bakım Hizmeti Veren Meslek Elemanlarının Manevi Bakıma Ilişkin Düşünceleri". Electronic Turkish Studies, 13 (9), 45-66. http://dx.doi.org/10.7827/TurkishStudies.13478
5. Simsen, B. (1988). "Spiritual Care. Nursing the Spirit". Nursing Times, 84 (37), 31-33. PMID: 3194241
6. Fagbenro, D. A, Ehigie, O. B. and Folasade. A. O. (2018). "Influence of Stages of Pregnancy on the Psychological Well-Being of Pregnant Women in Ibadan, Nigeria". International Journal of Caring Sciences, 11 (2), 719-724. https://www.internationaljournalofcaringsciences.org/docs/11_avaeez_original_10_2.pdf
7. Rowold, J. (2011). "Effects of Spiritual Well-Being on Subsequent Happiness. Psychological Well-Being and Stress". Journal of Religion and Health, 50, 950–963. https://doi.org/10.1007/s10943-009-9316-0
8. Ellison, C. W. (1983). "Spiritual Well-Being: Conceptualization and Measurement". Journal of Psychology and Theology, 11 (4), 330–340. https://doi.org/10.1177/009164718301100406
9. Uğurluoğlu, D. and Erdem, R. (2019). "The Impact of Indıvıduals' Spiritual Well-Being Who Go through a Trauma on Posttraumatic Growth". DEU Journal of GSSS, 21 (3), 833-858. http://dx.doi.org/10.16953/deusosbil.507731
10. Saad, M, Daher, J. C. and de Medeiros, R. (2019). "Spirituality, Religiousness and Physical Health: Scientific Evidence". Spirituality, Religiousness and Health: From Research to Clinical Practice, 87-100. https://doi.org/10.1007/978-3-030-21221-6_6
11. Purnell, M. C. Johnson, M. S. Jones, R. Calloway, E. B. Hammond, D. A, Hall, L. A. and Spadaro, D. C. (2019). "Spirituality and Religiosity of Pharmacy Students". American Journal of Pharmaceutical Education, 83 (1), 27-33. https://doi.org/10.5688/ajpe6795
12. Tan, B. Y. Chew, N. W. Lee, G. K. Jing, M. Goh, Y. Yeo, L. L. Zhang, K. Chin, H.K. Ahmad, A. Khan, F.A. and Sharma, V. K. (2020). "Psychological İmpact of the COVID-19 Pandemic on Health Care Workers in Singapore". Annals of İnternal Medicine, 173 (4), 317-320. https://doi.org/10.7326/M20-1083
13. Zhang, W. R. Wang, K. Yin, L. Zhao, W. F. Xue, Q. Peng, M. Min, B.Q. Tian, Q. Leng, H.X. Du, J.L. and Chang, H. (2020). "Mental Health and Psychosocial Problems of Medical Health Workers during the COVID-19 Epidemic in China". Psychotherapy and Psychosomatics, 89 (4), 242-250. https://doi.org/10.1159/000507639
14. Moghanibashi-Mansourieh, A. (2020). "Assessing the Anxiety Level of Iranian General Population during COVID-19 Outbreak". Asian Journal of Psychiatry, 102076. https://doi.org/10.1016/j.ajp.2020.102076
15. Nemati, M. Ebrahimi, B. and Nemati, F. (2020). "Assessment of Iranian Nurses' Knowledge and Anxiety toward COVID-19 during the Current Outbreak in Iran". Archives of Clinical Infectious Diseases, 15 (COVID-19), e102848. https://doi.org/10.5812/archcid.102848
16. Turkish Statistical Institute (TURKSTA); Health Statistics (2021): https://biruni.tuik.gov.tr/bolgeselistatistik/tabloOlustur.do (Accessed date: 25.10.2021).
17. Ekşi. H. and Kardaş. S. (2017). "Spiritual Well-Being: Scale Development and Validation". Spiritual Psychology and Counseling. 2. 73–88. http://dx.doi.org/10.12738/spc.2017.1.0022
18. Sarıçam, H. (2018). "The Psychometric Properties of Turkish Version of Depression Anxiety Stress Scale-21 (DASS-21) in Health Control and Clinical Samples". Journal of Cognitive Psychotherapy, Res, 7(1), 19-30. https://doi.org/10.5455/JCBPR.274847
19. Lovibond, P. F. and Lovibond, S. H. (1995). "The Structure of Negative Emotional States: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories". Behaviour Research and Therapy, 33(3), 335-343. http://dx.doi.org/10.1016/0005-7967(94)00075-u
20. Ghasemi, A. and Zahediasl, S. (2012). "Normality Tests for Statistical Analysis: A Guide for Non-Statisticians". International Journal of Endocrinology and Metabolism, 10 (2), 486-489. https://doi.org/10.5812/ijem.3505
21. Bakırhan, D. Ş. and Tan, M. (2023). "Determination of the Correlation between Fear of COVID-19 and Health Anxiety in Emergency Health Personnel". Mersin Üniversitesi Tıp Fakültesi Lokman Hekim Tıp Tarihi ve Folklorik Tıp Dergisi, 13 (1), 159-167 https://research.ebsco.com/c/f57n4n/viewer/pdf/qqme5f4leb
22. Celano, T. Harris, S. Sawyer, A. T. and Hamilton, T. (2022). "Promoting Spiritual Well-Being among Nurses". Nurse Leader, 20 (2), 188-192. https://doi.org/10.1016/j.mnl.2021.08.002
23. Kızıloğlu, M. Kircaburun, K. Özsoy, E. and Griffiths, M. D. (2022). "Work Addiction and Its Relation with Dark Personality Traits: A Cross-sectional Study with Private Sector Employees". International Journal of Mental Health and Addiction, 1-17. https://doi.org/10.1007/s11469-022-00973-0
24. Hasanshahi, M. and Mazaheri, M. A. (2016). "The Effects of Education on Spirituality through Virtual Social Media on the Spiritual Well-Being of the Public Health Students of Isfahan University of Medical Sciences in 2015". Int J Community Based Nurs Midwifery, 4 (2), 168-175. PMCID: PMC4876785, PMID: 27218114
25. Durmuş, M. and Alkan, H. (2021). "Investigation of the Relationship Between Quality of Work Life, Burnout and Spiritual Well-being in Intensive Care Nurses". Gumushane University Journal of Health Sciences, 10 (2), 264-272. https://doi.org/10.37989/gumussagbil.889760
26. Musa, A. S. Al Qadire, M. I. Aljezawi, M. E. Tawalbeh, L.I. Aloush, S. and Albanian, F.Z. (2019). "Barriers to the Provision of Spiritual Care by Nurses for Hospitalized Patients in Jordan". Research and Theory for Nursing Practice, 33 (4), 392-409. http://dx.doi.org/10.1891/1541.6577.33.4.392
27. Musa, A. S. Pevalin, D. J. and Al Khalaileh, M. A. (2018). "Spiritual Well-being, Depression, and Stress among Hemodialysis Patients in Jordan". J Holist Nurs, 36 (4), 354-365. https://doi.org/10.1177/0898010117736683636
28. Sahin, S. K. and Bulbuloglu, S. (2022). "The Effect of Spiritual Well-Being of Perioperative Nurses on Compassion". Journal of Peri Anesthesia Nursing, 37 (4), 509-514. https://doi.org/10.1016/j.jopan.2021.09.012
29. Tavel, P. Jozefiakova, B. Telicak, P. Furstova, J. Puza, M. and Kascakova, N. (2022). "Psychometric Analysis of the

Shortened Version of the Spiritual Well-Being Scale on the Slovak Population (SWBS-Sk)". International Journal of Environmental Research and Public Health, 19 (1), 511. https://doi.org/10.3390/ijerph19010511

30. Löffler, C. S. and Greitemeyer, T. (2021). "Are Women the More Empathetic Gender? The Effects of Gender Role Expectations". Current Psychology, 1-12. https://doi.org/10.1007/s12144-020-01260-8

31. Kim, H. S. and Yeom, H. A. (2018). "The Association between Spiritual Well-Being and Burnout In Intensive Care Unit Nurses: A Descriptive Study". Intensive and Critical Care Nursing, 46, 92-97. https://doi.org/10.1016/j.iccn.2017.11.005

32. Gökçay, G. Çevirme, A. İncirkuş Küçük, H. and Akgün, Z. G. (2024). "The Relationship between Earthquake Risk Perceptions Religious Orientation Spiritual Well Being in İndividuals with and without Earthquake Experience a Cross Sectional Study". Scientific Reports, 14 (5928), 1–13. https://doi.org/10.1038/s41598-024-56641-x

33. Naldan, M. E. Karayağmurlu, A. Yayık, M. and Arı, M. E. (2019). "Burnout, Job Satisfaction, Depression on The Healthcare Professionals Working in The Operation Room". Selcuk Med J, 35 (3), 152-158. https://doi.org/10.30733/std.2019.01117

34. e Diego-Cordero, R. Ávila-Mantilla, A. Vega-Escaño, J. Lucchetti, G. and Badanta, B. (2022). "The Role of Spirituality and Religiosity in Healthcare During the COVID-19 Pandemic: An Integrative Review of the Scientific Literature". Journal of Religion and Health. 61 (3), 2168-2197. https://doi.org/10.1007/s10943-022-01549-x

35. Danet, A. (2021). "Psychological impact of COVID-19 pandemic in Western Frontline Healthcare Professionals. A Systematic Review. Impacto Psicológico De La COVID-19 en Profesionales Sanitarios de Primera Línea en el Ámbito Occidental". Una revisión sistemática. Medicina Clinica, 156 (9), 449–458. https://doi.org/10.1016/j.medcli.2020.11.009

36. da Silva, F. and Neto, M. (2021). "Psychiatric Symptomatology Associated with Depression, Anxiety, Distress, and Insomnia in Health Professionals Working in Patients Affected by COVID-19: A Systematic Review with Meta-Analysis". Progress in Neuro-Psychopharmacology ve Biological Psychiatry, 104, 110057. https://doi.org/10.1016/j.pnpbp.2020.110057

37. Lai, J, Ma, S, Wang, Y, Cai, Z, Hu, J, Wei, N, ... and Hu, S. (2020). "Factors Associated with Mental Health Outcomes among Health Care Workers Exposed to Coronavirus Disease 2019". JAMA Network Open, 3 (3), e203976-e203976. http://dx.doi.org/10.1001/jamanetworkopen.2020.3976

38. Can, Ş. and Avcin, E. (2021). "Examining the Stress, Coping and Trust Levels of Turkish Healthcare Professionals During the COVID-19 Pandemic Process". Journal Religion Health, 60, 3326–3346. https://doi.org/10.1007/s10943-021-01363-x

39. Durna, B. D. Cetin, I. and Filiz, M. (2022)." A Perception Study on Stress and Stress Management in Healthcare Professionals: Sivas Sample Hospital Example". Van Health Science Journal, 15 (1), 1-12. https://doi.org/10.52976/vansaglik.808956

40. Tengilimoglu, D. Zekioglu, A. Tosun, N. Işik, O. and Tengilimoglu, O. (2021). "Impacts of COVID-19 Pandemic Period on Depression, Anxiety and Stress Levels of the Healthcare Employees in Turkey". Legal Medicine, 48, 101811. http://dx.doi.org/10.1016/j.legalmed.2020.101811

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Obstetric Violence from the Perspectives of Midwifery and Nursing Students

Ebelik ve Hemşirelik Öğrencilerinin Gözünden Obstetrik Şiddet

Özge Şiir DAĞLAR[1], Zehra ACAR[2]

ABSTRACT

The aim of this study is to determine the views and experiences of midwifery and nursing students about obstetric violence during the birth process.

This cross-sectional and descriptive study was conducted with 201 midwifery and nursing students studying at a university and taking part in labor between January and May 2023. "Personal Information Form", "Obstetric Violence Diagnosis Form" and "Witnessing Obstetric Violence Form" developed by the researchers were used to collect data.

The mean age of the participants was 22.14±2.28, and 40.3% were studying in nursing and 59.7% in midwifery. 59.2% of the students took an active role in the birth process. Midwifery students defined the types of violence more than nursing students: "routine enema, perineal shaving and amniotomy", "restriction of the movements/gait of the pregnant", "application of fundal pressure", "prohibition of eating and drinking during the birth process" and "giving baby food without permission". It was determined that midwives mostly witnessed "prohibition of eating and drinking during labor (85%)" and "blaming the pregnant woman in case of insufficient pushing (83.3%)", while the nurses witnessed "frequent vaginal examinations performed by different people (67.9%)" and "prohibition of accompanying persons (66.7%)".

In this study, it was seen that midwifery and nursing students did not have enough awareness of obstetric violence. In midwifery and nursing education, it is thought that giving education to provide respectful care to the mother during the birth process will contribute to the prevention of obstetric violence and the positive birth experience of mothers.

Keywords: Delivery Obstetric, Exposure to Violence, Midwifery, Nursing, Students

ÖZ

Bu çalışmanın amacı ebelik ve hemşirelik öğrencilerinin doğum sürecinde obstetrik şiddete ilişkin görüş ve deneyimlerini belirlemektir.

Kesitsel ve tanımlayıcı tipte tasarlanan bu çalışma, Ocak-Mayıs 2023 tarihleri arasında bir üniversitede öğrenim gören ve doğum eyleminde rol alan 201 ebelik ve hemşirelik öğrencisiyle yürütüldü. Verilerin toplanmasında araştırmacılar tarafından geliştirilen "Kişisel Bilgi Formu", "Obstetrik Şiddeti Tanılama Formu" ve "Obstetrik Şiddete Tanık olma Formu" kullanıldı.

Katılımcıların yaş ortalaması 22.14±2.28 olup %40,3'ü hemşirelik, %59,7'si ebelik bölümünde okumaktaydı. Doğum sürecinde öğrencilerin %59,2'si aktif rol almıştı. Ebelik öğrencileri hemşirelik öğrencilerine göre "rutin lavman, perine tıraşı ve amniyotomi uygulanması", "gebenin hareketlerinin/yürüyüşünün kısıtlanması", "fundal basınç uygulanması", "doğum sürecinde yeme içmenin yasaklanması" ile "izinsiz bebeğe mama verilmesi" şiddet türlerini daha fazla tanımlamaktaydı. Ebelerin en çok "doğum sürecinde yeme içmenin yasaklanmasına (%85)", "ıkınmanın yetersiz olduğu durumda gebenin suçlanmasına (%83,3)", hemşirelerin ise "vajinal muayenenin sık sık ve farklı kişiler tarafından yapılmasına (%67,9)", "doğumda eşlik edecek kişilerin yasaklanmasına (%66,7)" tanık oldukları saptandı.

Bu çalışmada ebelik ve hemşirelik öğrencilerinin obstetrik şiddete yönelik yeterli bilgi ve farkındalığa sahip olmadığı görülmüştür. Ebelik ve hemşirelik eğitiminde, doğum sürecinde anneye saygılı bakım sunmaya yönelik eğitim verilmesinin obstetrik şiddetin önlenmesine ve annelerin olumlu doğum deneyimi yaşamalarına katkı sağlayacağı düşünülmektedir.

Anahtar Kelimeler: Doğum Obstetrik, Şiddete Maruz Kalma, Ebelik, Hemşirelik, Öğrenciler

This study presented as an oral presentation at the 4nd International Conference Health care-a contribution to the quality of life, which held in online between 9-10 June 2023.

[1] Doktora Öğrencisi, Özge Şiir DAĞLAR, Kadın Sağlığı ve Hastalıkları Hemşireliği, İstanbul Üniversitesi-Cerrahpaşa Lisansüstü Eğitim Enstitüsü, ozgesiirdaglar@gmail.com, ORCID: 0000-0001-6287-6380
[2] Doktor Öğretim Üyesi, Zehra ACAR, Doğum ve Kadın Hastalıkları Hemşireliği, Sağlık Bilimleri Üniversitesi Hamidiye Hemşirelik Fakültesi, zehra.acar@sbu.edu.tr, ORCID: 0000-0002-1923-3096

İletişim / Corresponding Author: Özge Şiir DAĞLAR
e-posta/e-mail: ozgesiirdaglar@gmail.com

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INTRODUCTION

Respectful and honorable healthcare to the individual is a fundamental right for every pregnant woman and contributes to a positive birth experience.[1] Abuse and ill-treatment in the birth process is an important health problem that is associated with women's right to receive quality health care and not be subjected to violence, and that jeopardizes the bodily integrity of women.[2] "Obstetric violence (OV)" is a specific form of violence against women that violates human rights. This infringement is a relatively new concept in global health science, which has adopted different terminologies such as disrespect, maltreatment, or obstetric violence. All terms highlight the harmful impact of violence, the over-medicalization of childbirth, violations of women's human rights and its sexist nature.[3, 4]

Obstetric violence, more specifically, consists of any detrimental action, physical and/or psychological harm due to neglect and disrespectful treatment or neglect that causes unnecessary suffering or harm to the woman, without her consent or with disrespect for her autonomy, during pregnancy, childbirth and postpartum period in healthcare.[5-7] Obstetric violence includes many types of violence such as verbal abuse, applications without permission or information, not giving analgesia, preventing the presence of a birth attendant, not protecting privacy, psychological violence (aggressive, discriminatory, authoritarian or rude treatment), unauthorized cesarean or episiotomy practices, using oxytocin without medical indication to accelerate labor, application of the Kristeller's maneuver, forcing women to stay in bed, prohibiting access to food and liquids, and restricting freedom of movement.[1, 7] The World Health Organization, in its 2014 Declaration on the Prevention and Elimination of Disrespect and Abuse During Birth Care in Health Centers, warns that there are large numbers of women who are subjected to disrespectful and aggressive treatment during childbirth care.[8]

Obstetric violence may adversely affect maternal, fetal and perinatal outcomes, deterring women from seeking care in their future pregnancies.[9] In addition to not using the recommended procedures, unnecessary applications that may do harm, the use of not recommended and/or old applications cause consequences such as dystocia, hemorrhage and neonatal hypoxia at birth, as well as preventable health consequences such as maternal dissatisfaction and postpartum depression.[10] In a study conducted with 17.541 women, it was determined that 38.3% of pregnant women were exposed to obstetric violence.[11] In a study conducted with 899 mothers who gave birth in the last 12 months, 67.4% of mothers reported obstetric violence (25.1% verbal, 54.5% physical and 36.7% psychological).[8] In a study conducted in our country, obstetric violence was reported by 76.4% of women.[12] Many obstetric interventions related to OV are not considered disrespectful and abusive practices by health professionals, so they may not even be aware that they are involved in violent practices.[13] Although obstetric violence is common, studies examining the knowledge, attitude and awareness of health professionals on the subject are limited. In a study conducted with midwives, it was determined that midwives do not see obstetric violence as abuse, but as a birth strategy that facilitates successful birth and is beneficial to women.[2] Similarly, in another study, it was reported that midwives and nurses noticed obstetric violence but described some practices as violence.[14]

The knowledge and awareness of health professionals is very important in providing women-centered obstetric care services well and avoiding obstetric violence practices. Lack of sufficient knowledge and awareness may cause obstetric violence to continue.[15] The first step is to start gaining knowledge and awareness about obstetric violence during undergraduate education. Therefore, education of health professionals, standardization of care through the implementation of clinical practice guidelines, and health initiatives that promote humanization of birth will be key to eradicating obstetric violence. In our country,

studies examining the opinions of nursing and midwifery students regarding obstetric violence are limited. For these reasons, the aim of this study is to determine the views and experiences of midwifery and nursing students regarding obstetric violence.

MATERIALS AND METHODS

Study Design

This study was conducted as a cross-sectional descriptive study to determine the views and experiences of midwifery and nursing students regarding obstetric violence. The study meets the three main characteristics of a cross-sectional study: it was conducted within a specific time frame (January to May 2023), targeted a specific population (midwifery department students and 3rd-4th year nursing department students at a university), and aimed to describe the current views and experiences of these students.

Population and Sample of the Research

The population of the research consisted of midwifery department students and 3rd and 4th year nursing department students at a university in the spring semester of 2022-2023 academic year. Since nursing students complete the theory and clinical practice components of the "Women's Health and Diseases Nursing" course during the fall semester of their 3rd year, they possess the requisite knowledge to share informed opinions and experiences regarding obstetric violence. Consequently, only 3rd and 4th year nursing students were included in the study.

Participants are required to have clinical experience in the field of obstetrics in order to share their opinions and experiences about obstetric violence. For this reason, students who observed at least one normal birth were included in the study and purposeful sampling method was used. The research was conducted face to face between January and May 2023 with 201 students.

Collection of Data

In the study, there was the Personal Information Form, the "Obstetric Violence Diagnosis and Witnessing Form", which was created by the researchers in line with the literature. The questions in the questionnaire were sent to two experts in the field of health sciences to evaluate their suitability and clarity for the purpose of the study. After the expert evaluation, the sentences with spelling and expression errors in the questions were revised and applied by giving their final form.

After briefing students about the research, data was collected face-to-face by obtaining voluntary consent from the participants.

Inclusion and Exclusion Criteria

Inclusion criteria were fluency in reading and speaking Turkish; enrollment as a student at the midwifery or nursing department of Kent University; having observed normal birth.

Exclusion criteria included undergoing current psychiatric treatment involving pharmacotherapy or psychotherapy.

Measurement and Instruments

Personal Information Form

This form developed by the researchers consisted of a total of 12 questions evaluating the age of the students, their class, the department they studied, their role in the birth process, and the care provided by health professionals to pregnant women.

"Diagnosing Obstetric Violence" and "Witnessing Obstetric Violence" Form

Developed by researchers according to the literature, this form consisted of 68 questions in total, including questions to determine the level of knowledge of students about obstetric violence and the obstetric violence they witnessed.[16-18]

Statistical Analysis

Data were analyzed using the Statistical Program for Social Science 20.0 (SPSS) package program, using descriptive and parametric statistical analysis methods. First,

descriptive analyzes were made for the descriptive characteristics of the students. These analyses were determined as frequency, percentage, mean. Pearson chi-square test was used to compare categorical variables. Statistical significance value was evaluated as $p<0.05$.

Variables of the Research

Dependent Variables: "Diagnosing Obstetric Violence Form" and "Witnessing Obstetric Violence Form"

Independent Variables: Sociodemographic characteristics (age, gender, economic status, department and class etc.) of students

Ethical Considerations

For the study, ethics committee approval from Kent University Health Sciences Scientific Research and Publication Ethics Committee (dated 04.01.2023 and numbered 2023-01) and Kent University Faculty of Health Sciences Dean's Office (dated 03.01.2023 and E-21837828-044) Institutional permission (numbered-18978) was obtained. Verbal consent/approval was obtained from the students who would participate in the research after the purpose of the research was explained and attention was paid to the voluntary basis.

Limitations of the Research

The limitation of this study is that it was conducted with midwife and nurse students at a single university.

FINDINGS AND DISCUSSION

The mean age of the participants in the study was 22.14±2.28. 40.3% of the students were studying nursing and 59.7% were studying midwifery. 60.2% of the students were studying in the 3rd grade. More than half of the students (62.7%) expressed their economic status as "income equal to expenditure". While 40.8% of the students took part as observers during the birth process, 59.2% of them took an active role. The most active part in the birth process was the second stage of birth. The rate of students who did not think that pregnant women received adequate care by health professionals during delivery was 42.8%. The most common reasons why pregnant women could not receive adequate care during delivery were "Health professional maltreatment", "The birth environment does not have suitable conditions" and "High workload of healthcare professionals" (Table 1).

Table 1. Introductory Characteristics of Midwifery and Nursing Students Participating in the Study (N=201)

Variables	Mean (SD)
Age, mean (SD), y	22,14±2,28
	n (%)
Department of study	
Midwifery	120 (59.7)
Nursing	81 (40.3)
Grade	
3rd Grade	121 (60.2)
4th Grade	80 (39.8)
Economic condition	
Income less than expenses	53 (26.4)
Income equal to expense	126 (62.7)
Income more than expenses	22 (10.9)
Took an active role in the birth process	
Yes	82 (40.8)
No	119 (59.2)
The stage in which an active role was taken in the birth process[a] (n=82)	
1. Stage (Dilation and effacement)	27 (32.9)
2. Stage (Expulsion)	40 (48.7)
3. Stage (Removing the placenta)	28 (34.1)
4. Stage (Bleeding control)	25 (30.4)

Table 1. (Continues)

Do you think that pregnant women receive adequate care by health professionals during the birth process?	
Yes	48 (23.4)
Not sure	68 (33.8)
No	86 (42.8)

If your answer is No, can you explain why she did not receive adequate care?* (n=86)	
Health professional maltreatment	36 (41.8)
The birth environment does not have suitable conditions	20 (23.2)
High workload of healthcare professionals	19 (22.09)
Insufficient knowledge and skills of the health professional	11 (12.7)
Lack of equipment	10 (11.6)
Midwives not taking an active role	5 (5.81)

*SD: Standard Deviation, %: Percentage, * Multiple options*

The types of obstetric violence that midwifery students had the most knowledge of were "Physical interventions such as hitting, pushing, pinching the legs of the woman during the birth process (90.8%)", "Blaming the pregnant woman when pushing is insufficient (90%)" and "Not paying attention to the privacy of the pregnant woman in the delivery room (89.2%)", which included physical and psychological violence and care without privacy. The types of obstetric violence they had the least knowledge of were the routine practices seen in the clinic such as, "Not recommending epidural anesthesia (12.5%)", "Routine perineal shaving (31.7%)" and "Convincing the pregnant woman to have a cesarean section during the prolonged delivery period (36.7%)".

The types of obstetric violence that nursing students have the most knowledge of are "Not paying attention to the privacy of the pregnant woman in the delivery room (95.1%)", "Physical interventions such as hitting, pushing, pinching the legs of the woman during the birth process (91.4%)" and "Disregard for women's decisions (90.1%)", which included care without privacy, physical violence and dishonorable care. The types of obstetric violence they had the least knowledge of were “Not recommending epidural anesthesia (12.3%)”, “Routine enema application (23.5%)” and “Routine perineal shaving (23.5%)” and these were similar routine practices seen in the clinic.

Midwifery students were significantly better able to define the following items in obstetric violence compared to nursing students; “Routine enema application (42.5% vs. 23.5%)”, “Routine perineal shaving (31.7% vs. 23.5%)”, “Routine amniotomy (47.5% vs. 27.2%)”, “Restriction of the pregnant's movements/walk (72.5% vs. 54.3%)”, “Application of fundal pressure (45% vs. 25.9%)”, “Prohibition of eating and drinking during birth (42.5% vs. 28.4%)” and “Feeding formula to baby without permission from the mother (80% vs. 60.5%)” (Table 2).

Table 2. Opinions of Midwifery and Nursing Students on the Diagnosis of Obstetric Violence (N=201)

Statements	Midwife (n=120)			Nurse (n=81)			χ2*	
	Yes	Not sure	No	Yes	Not sure	No		
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	Test	*P*
1. Sharing the delivery room with more than one pregnant woman	76 (63.3)	20 (16.7)	24 (20)	51 (63)	16 (19.8)	14 (17.3)	0.447	.80
2. Not leaving the choice of birth decision to the pregnant	80 (66.7)	14 (11.7)	26 (21.7)	46 (56.8)	17 (21)	18 (22.2)	3.843	.17
3. Routine enema administration	51 (42.5)	34 (28.3)	35 (29.2)	19 (23.5)	35 (43.2)	27 (33.3)	8.425	.01
4. Routine perineal shaving	38 (31.7)	36 (30)	46 (38.3)	19 (23.5)	17 (21)	45 (55.6)	5.807	.04
5. Forcing the pregnant woman into the lithotomy position	68 (56.7)	31 (25.8)	21 (17.5)	53 (65.4)	19 (23.5)	9 (11.1)	2.049	.35
6. Immediate cutting of the umbilical cord	45 (37.5)	41 (34.2)	34 (28.3)	23 (28.4)	27 (33.3)	31 (38.3)	2.672	.26

Table 2. (Continues)

7. Routine amniotomy	57 (47.5)	38 (31.7)	25 (20.8)	22 (27.2)	40 (49.4)	19 (23.5)	9.153	.01
8. Restriction of movements/walking of the pregnant woman	87 (72.5)	15 (12.5)	18 (15)	44 (54.3)	19 (23.5)	18 (22.2)	7.292	.02
9. Unauthorized vaginal examination	99 (82.5)	12 (10)	9 (7.5)	71 (87.7)	2 (2.5)	8 (9.9)	4.412	.11
10. Frequent vaginal examination by different people	94 (78.3)	14 (11.7)	12 (10)	63 (77.8)	9 (11.1)	9 (11.1)	0.072	.96
11. Failure to take action to relieve labor pain	83 (69.2)	17 (14.2)	20 (16.7)	55 (67.9)	11 (13.6)	15 (18.5)	0.118	.94
12. Not paying attention to the privacy of the pregnant woman in the delivery room	107 (89.2)	3 (2.5)	10 (8.3)	77 (95.1)	-	4 (4.9)	3.009	.22
13. Not recommending epidural anesthesia	15 (12.5)	57 (47.5)	48 (40)	10 (12.3)	41 (50.6)	30 (37)	0.207	.90
14. Convincing the pregnant woman to have a cesarean section during the prolonged delivery period	44 (36.7)	45 (37.5)	31 (25.8)	31 (38.3)	28 (34.6)	22 (27.2)	0.18	.91
15. Disregard for women's decisions	104 (86.7)	8 (6.7)	8 (6.7)	73 (90.1)	3 (3.7)	5 (6.2)	0.86	.65
16. Not informing the pregnant about the birth process and procedures	99 (82.5)	8 (6.7)	13 (10.8)	65 (80.2)	6 (7.4)	10 (12.3)	0.165	.92
17. Failure to obtain the consent of the pregnant woman about the birth process and procedures	108 (90)	3 (2.5)	9 (7.5)	68 (84)	4 (4.9)	9 (11.1)	1.732	.42
18. Application of fundal pressure	54 (45)	41 (34.2)	25 (20.8)	21 (25.9)	37 (45.7)	23 (28.4)	7.525	.02
19. Taking pictures of themselves or the baby without the consent of the pregnant woman	105 (87.5)	5 (4.2)	10 (8.3)	69 (85.2)	2 (2.5)	10 (12.3)	1.212	.54
20. Performing episiotomy without anesthesia	86 (71.7)	22 (18.3)	12 (10)	57 (70.4)	16 (19.8)	8 (9.9)	0.064	.96
21. Blaming the pregnant woman when pushing is insufficient	108 (90)	5 (4.2)	7 (5.8)	70 (86.4)	3 (3.7)	8 (9.9)	1.155	.56
22. Prohibition of eating and drinking during birth	51 (42.5)	36 (30)	33 (27.5)	23 (28.4)	23 (28.4)	35 (43.2)	6.183	.04
23. Failure to cover the patient during delivery	84 (70)	18 (15)	18 (15)	60 (74.1)	16 (19.8)	5 (6.2)	4.051	.13
24. Opposing the woman's verbal responses to pain	102 (85)	5 (4.2)	13 (10.8)	72 (88.9)	4 (4.9)	5 (6.2)	1.322	.51
25. The woman not being allowed to shout	105 (87.5)	3 (2.5)	12 (10)	66 (81.5)	6 (7.4)	9 (11.1)	2.864	.23
26. Physical interventions such as hitting. pushing. pinching the legs of the woman during the birth process	109 (90.8)	2 (1.7)	9 (7.5)	74 (91.4)	2 (2.5)	5 (6.2)	0.28	.86
27. Abusing. shouting or insulting the mother during the birth process	75 (62.5)	27 (22.5)	18 (15)	39 (48.1)	22 (27.2)	20 (24.7)	4,590	.10

Table 2. (Continues)

28. Unauthorized emergency cesarean delivery	88 (73.3)	21 (17.5)	11 (9.2)	62 (76.5)	12 (14.8)	7 (8.6)	0.294	.86
29. No skin-to-skin contact	92 (76.7)	16 (13.3)	12 (10)	65 (80.2)	8 (9.9)	8 (9.9)	0.564	.75
30. Feeding baby formula without mother's permission	96 (80)	14 (11.7)	10 (8.3)	49 (60.5)	15 (18.5)	17 (21)	9.889	.007
31. Giving priority/concession to some pregnant women in the delivery process	77 (64.2)	30 (25)	13 (10.8)	49 (60.5)	21 (25.9)	11 (13.6)	0.426	.80
32. Prohibition of accompanying persons at birth	79 (65.8)	35 (29.2)	6 (5)	61 (75.3)	13 (16)	7 (8.6)	5.099	.07
33. Failure to do or postpone an application that should be done during the birth process	92 (76.7)	17 (14.2)	11 (9.2)	67 (82.7)	6 (7.4)	8 (9.9)	2,180	.33

**Pearson Chi-Square Test*

The types of obstetric violence witnessed by midwifery students the most were found to be “Prohibition of eating and drinking during the birth process (85%)”, “Accusing the pregnant woman when pushing is insufficient (83.3%)”, “Frequent vaginal examination done by different people (81%,7)” and “Prohibition of accompanying persons at birth (81.7%)”. The types of obstetric violence they witnessed the least were found to be “Routine perineal shaving (15%)”, “Taking pictures of themselves or the baby without the consent of the pregnant woman (18.3%)”, “Abusing, shouting or insulting the mother during the birth process (21.7%)” and “Feeding baby formula without mother's permission (21.7%)”.

The most common types of obstetric violence witnessed by nursing students were found to be “Frequent vaginal examination by different people (67.9%)”, “Prohibition of accompanying persons at birth (66.7%)” and “Not paying attention to the privacy of the pregnant woman in the delivery room (59,3%)”. The types of obstetric violence they witnessed the least were found to be "Taking pictures of themselves or the baby without the consent of the pregnant woman (13.6%)", "Abusing, shouting or insulting the mother during the birth process (14.8%)" and "Feeding baby formula without mother's permission (14.8%)”.

Midwifery students witnessed significantly more of the following items compared to nursing students; “Forcing the pregnant woman into the lithotomy position (65% vs. 46.9%)”, “Immediate cutting of the umbilical cord (76.7% vs. 58%)” and "Restriction of movements/walking of the pregnant (56.7% vs. 37%)”, “Frequent vaginal examination performed by different people (81.7% vs. 67.9%)” and “Accusing the pregnant in case of insufficient pushing (83.3% vs. 48.2%)”, “Prohibition of eating and drinking during childbirth (85% vs. 54.3%)”, “Opposing the pregnant’s verbal responses to pain (75% vs. 51.9%)”, “The pregnant not being allowed to shout (57.5% vs. 30.9%)”, “Physical interventions such as hitting, pushing, pinching the legs of the woman during the birth process (64.2% vs. 34.6%)”, “Unauthorized emergency cesarean delivery (66.7% vs. 43%)” and “Prohibition of accompanying persons at birth (81.7% vs. 66.7%)” (Table 3).

Table 3. Characteristics of Obstetric Violence Witnessed by Midwifery and Nursing Students (N=201)

Statements	Midwife (n=120)		Nurse (n=81)		χ^{2*}	
	Yes	No	Yes	No		
	n (%)	n (%)	n (%)	n (%)	Test	*P*
1. Sharing the delivery room with more than one pregnant woman	66 (55)	54 (45)	39 (48.1)	42 (51.9)	0.91	.34

Table 3. (Continues)

2. Not leaving the choice of birth decision to the pregnant	68 (56.7)	52 (43.3)	39 (48.1)	42 (51.9)	1.410	.23
3. Routine enema administration	47 (39.2)	73 (60.8)	30 (37)	51 (63)	0.093	.76
4. Routine perineal shaving	18 (15)	102 (85)	20 (24.7)	61 (75.3)	2.963	.08
5. Forcing the pregnant woman into the lithotomy position	78 (65)	42 (35)	38 (46.9)	43 (53.1)	6.482	.01
6. Immediate cutting of the umbilical cord	92 (76.7)	28 (23.3)	47 (58)	34 (42)	7.878	.005
7. Routine amniotomy	43 (35.8)	77 (64.2)	25 (30.9)	56 (69.1)	0.533	.46
8. Restriction of movements/walking of the pregnant woman	68 (56.7)	52 (43.3)	30 (37)	51 (63)	7.458	.006
9. Unauthorized vaginal examination	73 (60.8)	47 (39.2)	41 (50.6)	40 (49.4)	2.056	.15
10. Frequent vaginal examination by different people	98 (81.7)	22 (18.3)	55 (67.9)	26 (32.1)	5.041	.02
11. Failure to take action to relieve labor pain	70 (58.3)	50 (41.7)	37 (45.7)	44 (54.3)	3,110	.07
12. Not paying attention to the privacy of the pregnant woman in the delivery room	75 (62.5)	45 (37.5)	48 (59.3)	33 (40.7)	0.214	.64
13. Not recommending epidural anesthesia	31 (25.8)	89 (74.2)	24 (29.6)	57 (70.4)	0.351	.55
14. Convincing the pregnant woman to have a cesarean section during the prolonged delivery period	44 (36.7)	76 (63.3)	22 (27.2)	59 (72.8)	1.982	.15
15. Disregard for women's decisions	72 (60)	48 (40)	42 (51.9)	39 (48.1)	1.308	.25
16. Not informing the pregnant about the birth process and procedures	68 (56.7)	52 (43.3)	35 (43.2)	46 (56,8)	3.505	.06
17. Failure to obtain the consent of the pregnant woman about the birth process and procedures	44 (36.7)	76 (63.3)	25 (30.9)	56 (69.1)	0.722	.39
18. Application of fundal pressure	94 (78.3)	26 (21.7)	41 (50.6)	40 (49.4)	16.844	<.001
19. Taking pictures of themselves or the baby without the consent of the pregnant woman	22 (18.3)	98 (81.7)	11 (13.6)	70 (86.4)	0.796	.37
20. Performing episiotomy without anesthesia	47 (39.2)	73 (60.8)	22 (27.2)	59 (72.8)	3.092	.07
21. Blaming the pregnant woman when pushing is insufficient	100 (83.3)	20 (16.7)	39 (48.1)	42 (51.9)	28.066	<.001
22. Prohibition of eating and drinking during birth	102 (85)	18 (15)	44 (54.3)	37 (45.7)	22,900	<.001
23. Failure to cover the patient during delivery	68 (56.7)	52 (43.3)	38 (46.9)	43 (53.1)	1.846	.17
24. Opposing the woman's verbal responses to pain	90 (75)	30 (25)	42 (51.9)	39 (48.1)	11.494	.001
25. The woman not being allowed to shout	69 (57.5)	51 (42.5)	25 (30.9)	56 (69.1)	13.781	<.001
26. Physical interventions such as hitting. pushing. pinching the legs of the woman during the birth process	77 (64.2)	43 (35.8)	28 (34.6)	53 (65.4)	16.98	<.001
27. Using bad language. shouting or insulting the mother during the birth process	26 (21.7)	94 (78.3)	12 (14.8)	69 (85.2)	1.481	.22
28. Unauthorized emergency cesarean delivery	80 (66.7)	40 (33.3)	35 (43.2)	46 (56.8)	10.869	.001

Table 3. (Continues)

29. No skin-to-skin contact	46 (38.3)	74 (61.7)	24 (29.6)	57 (70.4)	1.614	.20
30. Feeding baby formula without mother's permission	26 (21.7)	94 (78.3)	12 (14.8)	69 (85.2)	1.481	.22
31. Giving priority/concession to some pregnant women in the delivery process	30 (25)	90 (75)	22 (27.2)	59 (72.8)	0.118	.73
32. Prohibition of accompanying persons at birth	98 (81.7)	22 (18.3)	54 (66.7)	27 (33.3)	5.902	.01
33. Failure to do or postpone an application that should be done during the birth process	45 (37.5)	75 (62.5)	29 (35.8)	52 (64.2)	0.06	.80

**Pearson Chi-Square Test*

Obstetric violence starts from the pregnancy period and continues until the postpartum period. In this study, which was conducted to determine the views and experiences of midwifery and nursing students regarding obstetric violence during the birth process, it was determined that the students took part in the second stage of labor most actively in the birth process and 42.8% thought that the pregnant women could not receive adequate care by health professionals during the birth process. The most common reason why pregnant women could not receive adequate care during delivery was "maltreatment of health professionals". In a study conducted with women in the third month after giving birth, women stated that they did not receive adequate care during childbirth and were exposed to verbal abuse, unwanted procedures, and physical abuse.[19] In a study conducted in the USA, it was determined that one out of six women was exposed to more than one maltreatment during childbirth, and they experienced problems such as scolding, shouting, threatening or not responding to requests for help.[20] The results of these studies, similar to our study, reveal the maltreatment applied by health professionals during the birth process. Inadequate care and mistreatment by health professionals can negatively affect women's physical and psychological health during the birth process. This situation poses a serious problem for patient safety and quality management in healthcare systems. To prevent obstetric violence, it is crucial to implement changes in health policies and practices and to develop standard protocols and guidelines that enhance the quality of care. Furthermore, legal regulations and practices to protect patient rights need to be strengthened.

The most frequently reported cases of obstetric violence were the rejection of accompanying persons, the lack of information about different procedures performed during care, unnecessary cesarean application, deprivation of the right to feed and walking, unjustified routine and repetitive vaginal examinations, frequent use of oxytocin to accelerate labor, episiotomy without the consent of women, and the Kristeller maneuver implementation. In a study conducted in Mexico, women stated that vaginal examinations during childbirth are a painful practice and that their privacy is not taken care of because these examinations are carried out by different people.[21] In the study conducted with 24,126 women in Mexico, it was observed that 33.3% were exposed to obstetric violence, 23.6% were exposed to abuse and violence, and 17.1% were exposed to care without consent.[22] In another study conducted with 1854 mothers, it was found that two out of three women (65.3%) experienced obstetric violence and were most frequently exposed to care without privacy, abandoned care, dishonorable care and physical abuse.[4] In the present study, the most common types of obstetric violence witnessed by students were prohibiting eating and drinking during childbirth, blaming the pregnant woman when pushing is insufficient, frequent vaginal examinations performed by different people, and prohibition of accompanying persons. The high number of patients per midwife/nurse throughout our country and the insufficient number of

personnel increase the workload of healthcare professionals. This situation causes the health professionals working in delivery rooms to show a tendency to accelerate the birth processes and therefore not to provide adequate care to women during the birth process. In addition, the fact that most of the students were put into practice in education and research hospitals and the frequent vaginal examinations in these institutions may have affected their witnessing status.

All experienced obstetric violence can eventually lead to permanent physical, mental and emotional damage.[23] In a study conducted in India, it was found that women who were exposed to obstetric violence experienced higher rates of complications during delivery and postpartum period.[24] In a qualitative study with women exposed to obstetric violence, it has been determined that they experience emotions such as anxiety, stress, anger, helplessness, fear and sadness due to the obstetric violence they are exposed to.[25] In a study conducted in Spain, it was found that women who were exposed to verbal or psycho-emotional obstetric violence were at higher risk of postpartum depression.[26] Considering the negative effects of obstetric violence in the short and long term, necessary steps should be taken to prevent it.

The culture of acceptability of obstetric violence is an important driver contributing to its normalization. Unfortunately, it is stated that many midwives see obstetric violence not as abuse, but as a birth strategy that facilitates successful birth and is beneficial to women.[2] As a result of a qualitative study conducted with midwives in Ghana, it was revealed that violence in the delivery room normalized and the intensity of violence increased in the second stage of birth. Midwives reported that they used or witnessed physical violence against women during the birth process, women were left alone, women with HIV were stigmatized, and verbal abuse such as shouting occurred.[2] In a study conducted to measure the perception of obstetric violence among health science students, it was found that 52.7% of the students thought that immigrant women were treated worse during childbirth.[18] In a cross-sectional study conducted on midwives in Spain in 2021, it was determined that almost all of the midwives (92.6%) knew the term obstetric violence, but 74.8% did not believe that obstetric violence had the same meaning as malpractice. In addition, 56.9% of the midwives stated that they observed obstetric violence rarely and 26.5% regularly.[17] While most midwives consider physical assault as obstetric violence, they did not accept some behaviors included in the international definitions of obstetric violence, such as not introducing themselves to the women they care for or not giving enough information about the procedures performed, as obstetric violence. In addition, 97.5% of midwives believe that raising awareness about the issue is one of the main points to reduce this problem.[17] In the present study, it was found that midwifery and nursing students had more information about physical, psychological and obstetric violence types where privacy was not observed, but they did not see routine practices as obstetric violence. This indicates that students have a low level of awareness that some routine practices actually involve violence or may potentially lead to negative consequences. This finding shows that obstetric violence should be defined in education programs and practical experiences, awareness should be increased and appropriate practices should be encouraged. Students studying midwifery and nursing should be aware that there are different types and dimensions of obstetric violence. In addition, having knowledge about evidence-based practices at birth will be an important step in increasing awareness of obstetric violence and preventing it. In addition, it was found in the study that midwifery students had more knowledge in describing the types of obstetric violence and witnessed more obstetric violence than nursing students. It is expected from this result of the study that midwifery education focuses more on issues related to obstetrics and women's health, midwifery students have more clinical experience with birth processes, have more active participation in the birth process, and have more opportunities to recognize and

witness obstetric violence. Therefore, in case of having sufficient information about obstetric violence, the result is that awareness will be high when obstetric violence is witnessed.

Education is an important tool in the prevention of obstetric violence. In Qatar, a video consisting of a dramatized obstetric violence scenario was shown to a team of healthcare professionals consisting of obstetricians, obstetrical nurses and midwives, and their knowledge and attitudes towards obstetric violence were examined. As a result of the study, it was determined that 52% of the participants had heard the term obstetric violence before, 48% could define this term correctly, and 63% had witnessed obstetric violence in their working life.[27] In a study conducted in our country, it was determined that midwives and nurses improved their care behaviors and communication skills after the training program aimed at preventing obstetric violence. In addition, it was found that the care perceptions and satisfaction score averages of women who received care from these midwives and nurses increased after the training.[28] In another study, it was stated that obstetric violence education given to health science students increased students' knowledge and awareness about obstetric violence.[29] In a study conducted in Brazil, the importance of nurses' education in the face of obstetric violence was emphasized and it was recommended to have courses on obstetric violence in gynecology nursing graduate programs.[30] After the 8-hour seminar on obstetric violence given to nursing and medical students, it was determined that the students became conscious about obstetric violence. It has been stated that the trainings to be given on obstetric violence will raise awareness among students and enable them to recognize and define obstetric violence.[29] It is thought that including "respectful maternity care" in undergraduate education, defining obstetric violence, and conveying interventions to prevent obstetric violence are important for preventing obstetric violence.

CONCLUSIONS AND RECOMMENDATIONS

Quality and humanized principles should guide the care of pregnant women and care processes during labor and delivery. It is the duty of health services and health professionals to provide health care to the pregnant, mother and newborn with dignity and respect for the rights of the individual. In this study, it was seen that midwifery and nursing students did not have enough awareness of obstetric violence. Obstetric violence should be prevented in order to respect human rights, prevent physical and psychological harm to women, and increase the quality of health care services. In this regard, it will be an important step to raise awareness, to organize training programs for health professionals and women about the birth process, women's rights and obstetric violence. To prevent obstetric violence, it is necessary to make appropriate legal regulations or update existing laws. It is necessary to establish and implement policies and protocols for the prevention of obstetric violence in healthcare institutions. It is important to strengthen support mechanisms for victims of obstetric violence and to establish appropriate mechanisms for receiving complaints. In midwifery and nursing education, it is thought that giving education to provide respectful care to the mother during the birth process will contribute to the prevention of obstetric violence and the positive birth experience of mothers.

REFERENCES

1. Acar, Z. and Sahin, N.H. (2021). "Women's Experiences of Obstetric Violence: A Systematic Review". Mersin University Journal of Health Sciences, 14 (3), 509-519. https://doi.org/10.26559/mersinsbd.807530

2. Yalley, A.A. (2022). "We Beat Them to Help Them Push": Midwives' Perceptions on Obstetric Violence in the Ashante and Western Regions of Ghana". Women, 3 (1), 22-40. https://doi.org/10.3390/women3010002

3. Organização Mundial da Saúde. (2014). "Prevenção e eliminação de abusos, desrespeito e maus-tratos durante o parto em instituições de saúde-Declaração da OMS". Access link: https://apps.who.int/iris/bitstream/handle/10665/134588/WHO_RHR_14.23_por.pdf;jsessionid=71A5526EB49C740BE2F28AFCAD44A8E7?sequence=3 (Access date: 10 October 2023).

4. Yalley, A.A, Abioye, D, Appiah, S.C.Y. and Hoeffler, A. (2023). "Abuse and Humiliation in the Delivery Room: Prevalence and Associated Factors of Obstetric Violence in Ghana". Front Public Health, 13 (11), 988961. https://doi.org/10.3389/fpubh.2023.988961

5. Bohren, M.A, Mehrtash, H, Fawole, B, Maung, T.M, Balde, M.D. and Maya, E. (2019). "How Women are Treated During Facility-Based Childbirth in Four Countries: A Cross-Sectional Study with Labour Observations and Community-Based Surveys". The Lancet, 394 (10210), 1750-1763. https://doi.org/10.1016/S0140-6736(19)31992-0

6. Bowser, D. and Hill, K. (2010). "Exploring Evidence for Disrespect and Abuse in Facility-Based Childbirth: Report of a Landscape Analysis". Harvard School of Public Health and University Research Washington DC. Access link: https://scholarworks.brandeis.edu/esploro/outputs/report/Exploring-Evidence-for-Disrespect-and-Abuse/9924139025301921 (Access date: 1 October 2023).

7. Katz, L, Amorim, M.M, Giordano, J.C, Bastos, M.H. and Brilhante, A.V.M. (2020). "Who is Afraid of Obstetric Violence?". Revista Brasileira De Saúde Materno Infantil, 20, 623-626. https://doi.org/10.1590/1806-93042020000200017

8. Martínez-Galiano, J.M, Martinez-Vazquez, S, Rodríguez-Almagro, J. and Hernández-Martinez, A. (2021). "The Magnitude of the Problem of Obstetric Violence and its Associated Factors: A Cross-Sectional Study". Women and Birth, 34 (5), E526-E536. https://doi.org/10.1016/j.wombi.2020.10.002

9. Meijer, M, Brandão, T, Cañadas, S. and Falcon, K. (2019). "Components of Obstetric Violence in Health Facilities in Quito, Ecuador: A Descriptive Study on Information, Accompaniment, and Position During Childbirth". International Journal of Gynecology & Obstetrics, 148 (3), 355-360. https://doi.org/10.1002/ijgo.13075

10. Lansky, S, Souza, K.V.D, Peixoto, M, Oliveira, B.J, Diniz, G. and Vieira, N.F. (2019). "Obstetric Violence: Influences of the Senses of Birth Exhibition in Pregnant Women Childbirth Experience". Ciencia & Saude Coletiva, 24, 2811-2824. https://doi.org/10.1590/1413-81232018248.30102017

11. Mena-Tudela, D, Iglesias-Casás, S, González-Chordá, V.M, Cervera-Gasch, Á, Andreu-Pejó, L. and Valero-Chilleron, M.J. (2020). "Obstetric Violence in Spain (Part I): Women's Perception and Interterritorial Differences". International Journal of Environmental Research and Public Health, 17 (21), 7726. https://doi.org/10.3390/ijerph17217726

12. Asci, O. and Bal, M.D. (2023). "The Prevalence of Obstetric Violence Experienced by Women During Childbirth Care and its Associated Factors in Türkiye: A Cross-Sectional Study." Midwifery, 124, 103766. https://doi.org/10.1016/j.midw.2023.103766

13. Borges, M.T. (2019). "A Violent Birth: Reframing Coerced Procedures During Childbirth as Obstetric Violence". Duke LJ, 67, 827.

14. Leal, S.Y.P, de Azevedo Lima, V.L, da Silva, A.F, Soares, P. D.F.L, Santana, L.R, Pereira, Á. (2018). "Perception of Nurse Midwives on Obstetric Violence". Cogitare Enferm, 23 (2), e52473. http://dx.doi.org/10.5380/ce.v23i1.52473

15. Kilci, S, Bozkurt, O.D. and Saruhan, A. (2020). "A Violation of Women's Rights: Obstetric Violence". Journal of Archive Literature Review, 29 (2), 122-128. https://doi.org/10.17827/aktd.535574

16. Mena-Tudela, D, Cervera-Gasch, A, Alemany-Anchel, M.J, Andreu-Pejó, L. and González-Chordá, V.M. (2020). "Design and Validation of the PERCOV-S Questionnaire for Measuring Perceived Obstetric Violence in Nursing, Midwifery and Medical Students". International Journal of Environmental Research and Public Health, 17 (21), 8022. https://doi.org/10.3390/ijerph17218022

17. Martínez-Galiano, J.M, Rodríguez-Almagro, J, Rubio-Álvarez, A, Ortiz-Esquinas, I, Ballesta-Castillejos, A. and Hernández-Martínez, A. (2023). "Obstetric Violence from a Midwife Perspective". International Journal of Environmental Research and Public Health. 20 (6), 4930. https://doi.org/10.3390/ijerph20064930

18. Brigidi, S, Mena-Tudela, D. and Biurrun-Garrido, A. (2023). "Perception of Health Sciences and Feminist Medical Students about Obstetric Violence". Enfermería Clínica, 33 (3), 234-243. https://doi.org/10.1016/j.enfcli.2023.02.005

19. Mesenburg, M.A, Victora, C.G, Jacob Serruya, S, Ponce De León, R, Damaso, A.H. and Domingues M.R. (2018). "Disrespect and abuse of Women During the Process of Childbirth in the 2015 Pelotas Birth Cohort". Reproductive Health, 15 (1), 2-8. https://doi.org/10.1186/s12978-018-0495-6

20. Vedam, S, Stoll, K, Taiwo, T.K, Rubashkin, N. and Cheyney, M. (2019). "The Giving Voice to Mothers Study: Inequity and Mistreatment During Pregnancy and Childbirth in the United States". Reproductive Health, 16 (1), 77. https://doi.org/10.1186/s12978-019-0729-2

21. Flores, R, Ledezma, M, Ibarra, H. and Acevedo, G. (2019). "Social Construction of Obstetric Violence of Tenek and Nahuatl Women in Mexico". Revista Da Escola De Enfermagem Da USP, 53, E03464. https://doi.org/10.1590/S1980-220X2018028603464

22. Castro, R. and Frías, S.M. (2020). "Obstetric Violence in Mexico: Results from a 2016 National Household Survey". Violence Against Women, 26 (6–7), 555–572. https://doi.org/10.1177/1077801219836732

23. Jardim, B. and Modena, C.M. (2018). "Obstetric Violence in the Daily Routine of Care and its Characteristics". Revista Latino-Americana De Enfermagem, 26. https://doi.org/10.1590/1518-8345.2450.3069

24. Raj, A, Dey, A, Boyce, S, Seth, A, Bora, S. and Chandurkar, D. (2017). "Associations Between Mistreatment by a Provider During Childbirth and Maternal Health Complications in Uttar Pradesh, India". Maternal Child Health Journal, 21, 1821–1833. https://doi.org/10.1007/s10995-017-2298-8

25. Avci, N. and Kaydirak, M.M. (2023). "A Qualitative Study of Women's Experiences with Obstetric Violence during Childbirth in Turkey". Midwifery, 121, 103658. https://doi.org/10.1016/j.midw.2023.103658

26. Martinez-Vázquez, S, Hernández-Martínez, A, Rodríguez-Almagro, J, Delgado-Rodríguez, M. and Martínez-Galiano, J.M. (2022). "Relationship Between Perceived Obstetric Violence and the Risk of Postpartum Depression: An Observational Study". Midwifery, 108, 103297. https://doi.org/10.1016/j.midw.2022.103297

27. Gray, T, Mohan, S, Lindow, S. and Farrell, T. (2019). "Obstetric Violence: Clinical Staff Perceptions from a Video of Simulated Practice". European Journal of Obstetrics & Gynecology and Reproductive Biology, X, 1. https://doi.org/10.1016/j.eurox.2019.100007

28. Ozcalkap, N. (2022). "Effectiveness of the Training Program Given to Midwives and Nurses to Prevent Obstetric Violence: Results of Midwives, Nurses and Women Receiving Care". Doctoral Thesis, Inonu University Institute of Health Sciences, Malatya.

29. Mena-Tudela, D, González-Chordá, V.M, Soriano-Vidal, F.J, Bonanad-Carrasco, T, Centeno-Rico, L. and Vila-Candel, R. (2020). "Changes in Health Sciences Students' Perception of Obstetric Violence after an Educational Intervention". Nurse Education Today, 88, 10. https://doi.org/10.1016/j.nedt.2020.104364

30. Silva, T.M.D, Sousa, F, Oliveira, S, Amorim, M. and Almeida, L. (2020). "Obstetric Violence: Theme Approach in the Training of Certified Nurse-Midwives". Acta Paulista de Enfermagem, 33. https://doi.org/10.37689/acta-ape/2020AO01466

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The Effects of Diaphragmatic Breathing Exercise on Hot Flashes in Menopausal Women during the COVID-19 Pandemic Period: A Randomized Controlled Trial

COVID-19 Pandemi Sürecinde Menopozal Dönemdeki Kadınlarda Diyafram Nefes Egzersizinin Sıcak Basmasına Etkisi: Randomize Kontrollü Bir Çalışma

Nazife BAKIR[1], Pınar IRMAK VURAL[2], Cuma DEMİR[3]

ABSTRACT

Vasomotor symptoms are the most common problem during the menopausal period. This study investigated the effects of diaphragmatic breathing exercises on hot flashes in menopausal Turkish women during the COVID-19 pandemic period. The study was carried out as a randomized controlled trial with the participation of menopausal women aged 45-60 years in eastern Türkiye. A total of 68 women formed two groups, 34 in each group. A Descriptive Characteristics Form and the Hot Flash-Related Daily Interference Scale were used to collect study data.The results of the study showed that the menopause period in most women was between one and five years. The participants stated that the COVID-19 pandemic period increased the frequency of their menopausal hot flashes to a statistically significant extent. While there was a statistically significant difference ($p<0.05$) in the mean scale scores for the experimental group before and after the experiment, there was no significant difference in the control group ($p>0.05$). In this study, considering the group parameters, the standardization of the difference between the averages was calculated as 0.6976. This significant result has a medium effect size. The diaphragmatic breathing exercises in this study were found to reduce hot flashes complaints during the menopausal period.

Keywords: COVID-19, Diaphragmatic Breathing Exercise, Hot Flashes, Menopausal Period

ÖZ

Menopozal dönemdeki en yaygın problem vasomotor semptomlardır. Bu çalışmanın amacı COVID-19 pandemi sürecinde menopozal dönemdeki kadınlarda diyafram nefes egzersizinin sıcak basmasına etkisinin araştırılmasıdır. Bu çalışma Türkiye'nin doğu bölgesindeki 45-60 yaşları arasındaki menopozal dönemdeki kadınlarla randomize kontrollü olarak yürütülmüştür. Toplamda 68 kadın ile 34 kişilik 2 grup oluşturulmuştur. Tanımlayıcı Özellikler Formu ve Menopoza Özgü Sıcak Basması Ölçeği ile veri toplanmıştır. Araştırmanın sonuçlarına göre kadınlar çoğunlukla bir ile beş yıldır menopozal dönemde olduğu belirlenmiştir. Kadınlar, COVID-19 pandemi döneminde sıcak basma şikayetlerinin sıklığını istatistiksel olarak anlamlı ölçüde arttığını belirtmişlerdir. Deney grubu için nefes egzersizi öncesi ve sonrası ölçek puan ortalamaları arasında istatistiksel olarak anlamlı fark bulunurken ($p<0,05$), kontrol grubunda anlamlı bir fark saptanamamıştır ($p>0,05$). Bu çalışmada grup parametreleri dikkate alınarak ortalamalar arasındaki farkın standardizasyonu 0,6976 olarak hesaplanmıştır. Bu anlamlı sonuç orta etki büyüklüğüne sahiptir Bu çalışmada diyafragmatik solunum egzersizlerinin menopozal döneminde sıcak basması şikayetlerini azalttığı saptanmıştır.

Anahtar kelimeler: COVID-19, Diyafram Nefes Egzersizi, Menoposal Dönem, Sıcak Basması

The approval for conducting the study was obtained from the İstanbul Medipol University Ethics Committee (approval number: 10840098-772.02-E.62969), and permission was obtained from the Turkish Ministry of Health General Directorate of Health Services before the commencement of the study

[1] Assoc. Prof. Dr. Nazife BAKIR, Obstetrics-Women's Health and Nursing, Burdur Mehmet Akif Ersoy University, Bucak School of Health, Nursing Department, nazbakir@hotmail.com, ORCID:0000-0003-1324-0647
[2]Assoc. Prof. Dr. Pınar IRMAK VURAL , Istanbul Medipol University, Faculty of Health Sciences, Nursing Department, pinar.irmak@windowslive.com, ORCID:0000-0002-8070-2840
[3]Nurse Cuma DEMİR, Sağlık Bilimleri University Bakırköy Dr. Sadi Konuk Training and Research Hospital, cumademirmehmetakif@gmail.com, ORCID:0000-0003-3361-8547

İletişim / Corresponding Author: Nazife BAKIR
e-posta/e-mail: nazbakir@hotmail.com

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INTRODUCTION

Menopause is experienced by 1.5 million women worldwide each year, and menopausal women experience vasomotor symptoms, insomnia, decreased libido, vaginal dryness, fatigue, and joint pain. These symptoms are associated with hormonal changes during menopause. Vasomotor symptoms (hot flashes, night sweats, facial flushing) are the most frequently experienced symptoms affecting most women during the progression of the menopausal period, although their severity, frequency, and duration vary widely. It has been reported that up to 85% of women feel hot flashes. Besides, approximately 55% of women were found to experience hot flashes with the onset of menstrual irregularity. [1-3] Hot flashes can occur spontaneously in the day or night, and many common factors can trigger them, such as embarrassment, sudden change in ambient temperature, stress, alcohol, caffeine, or a hot drink. They usually last between 30 seconds and five minutes and vary in frequency between one and fifty attacks per day.[4]

There is an increasing focus on the development and evaluation of non-pharmacological and non-hormonal therapies for vasomotor symptoms.[5] One of the non-pharmacological methods of dealing with hot flashes in the menopausal period is diaphragmatic breathing exercises. Diaphragmatic breathing is performed by contracting the diaphragm, a muscle located horizontally between the thoracic and abdominal cavities.[6,7] Breathing exercises reduce anxiety and stress by causing the autonomic nervous system to relax. [8] It has been stated in the literature that breathing exercises reduce anxiety levels, help anger management, lower blood pressure, improve immunity, and decrease the severity of stress and hot flashes.[9]

The COVID-19 pandemic, which has taken hold of the whole world, affects the lives of people of all ages in all aspects. Moreover, middle-aged women have been determined to feel lonelier and more anxious than men in the pandemic period.[10-12] It has been emphasized that in the COVID-19 pandemic period, women are more vulnerable than men, their loneliness levels increase, and their levels of spiritual well-being decrease.[13] When women face a stressor, they may need more social support.[10]

Besides, stress seems to trigger menopausal symptoms, especially hot flashes.[14] In the literature review, no previous study on coping with hot flashes in menopausal women during the COVID-19 pandemic period was encountered.

In this context, this study aims to determine the effects of diaphragmatic breathing exercises on hot flashes in menopausal Turkish women during the COVID-19 pandemic period

MATERIALS AND METHODS

Setting and sample of the study

This study is a randomized controlled trial which complied with the items of the consolidated standards of reporting trials (CONSORT) checklist (Figure 1). This randomized controlled trial was carried out with the participation of Turkish-speaking menopausal women aged 45-60 with no communication problems or psychological disorders, who presented to a hospital in eastern Türkiye between November 2020 and February 2021. A power analysis was performed to determine the number of participants to be included in each group in the study. The power of the study was calculated in the G*Power 3.1.9.7 program. By accepting alpha = 0.05 and power (1-ß) = 0.80, a total of 68 participants were included in the study, with 34 participants in either group. Randomization was achieved by the random-allocation method with sealed, opaque envelopes. After informing the women who presented to the hospital's internal medicine clinic on the study and getting their voluntary approval, they were included in the

experimental group or the control group according to the random envelope allocation process.

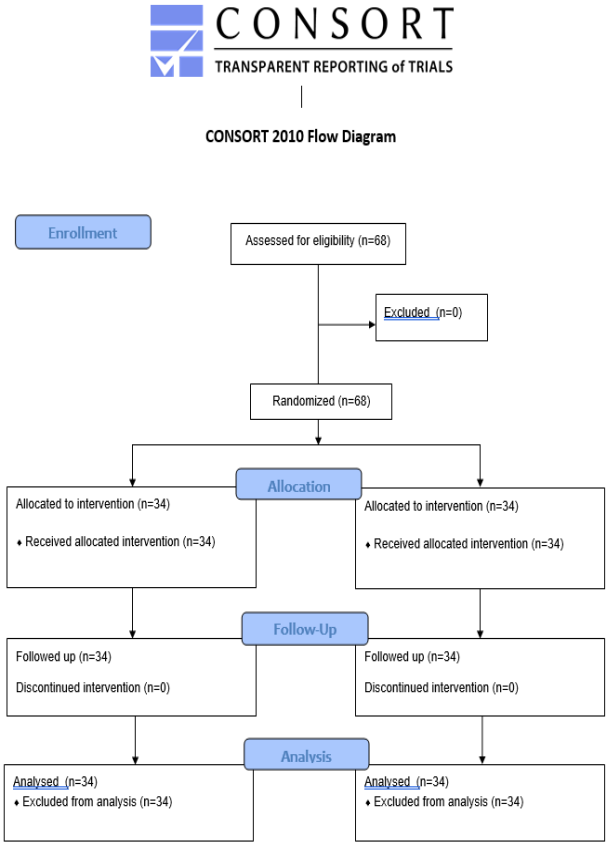

Figure 1. CONSORT Flow Diagram

Data collection

A Descriptive Characteristics Form and the Hot Flash-Related Daily Interference Scale (HFRDIS) were used to collect the data. The Descriptive Characteristics Form that was created by the authors included questions about the sociodemographic and gynecological characteristics of the participants. HFRDIS, which was developed by Carpenter in 2001, describes how hot flashes have affected certain aspects of life over the past two weeks. The scale's Cronbach's alpha value was reported as 0.902. It is a single-factor, 10-item, 11-point Likert-type scale (0 = Not at all affected, 10 = Extremely affected). The scale score is determined by adding the scores of each item. High scores indicate that hot flashes highly affect the quality of life of the person. The 10-item scale's first nine items evaluate the effects of hot flashes on nine particular life activities, and the tenth item assesses their influence on the general quality of life.[4,15] In this study, Cronbach's alpha value of the scale was found 0.830.

Procedure

First, the Descriptive Characteristics Form and HFRDIS were applied to the women in both groups. Then, the researcher (author) informed and trained the experimental group about the diaphragmatic breathing exercises and gave each participant a booklet about the method. The participants in the experimental group were instructed to exercise diaphragmatic breathing twice a day for ten minutes for four weeks whenever they felt hot flashes during the day. Every week, the participants were telephoned and conversed about the diaphragmatic breathing exercises, and developments were observed in the practices. At the end of four weeks, HFRDIS was applied again. No intervention was made in the control group, and the participants in the control group were asked to continue their daily lives. At the end of four weeks, the participants were administered HFRDIS by phone, and the booklet describing the diaphragmatic breathing exercises prepared for the experimental group was sent to them via e-mail or regular mail to their addresses.

Diaphragmatic breathing exercises

The person lies flat on their back on the floor or in bed, their knees bent, and their head supported. A pillow can be used under the knees to reinforce the legs. One hand is placed on the upper part of the chest, and the other is placed below the rib cage. This posture will allow the person to feel the diaphragmatic movement as breathing. The person slowly breathes through the nose so that the hand above the stomach moves upward. The hand on the chest should remain as still as possible. The hand on top of the stomach descends while exhaling by puckering the lips. The breath is exhaled through the pursed mouth within a time twice as long as the time of inhaling with the nose.[16,17]

Data analysis

The data were analyzed using the SPSS (Statistical Package for the Social Sciences, USA) version 23.0 program. The Shapiro–

Wilk test was used to find out whether the data were normally distributed. Other statistical analyses included Chi-squared tests, the Mann-Whitney U test, and the Wilcoxon signed-rank test.

Ethical considerations

The approval for conducting the study was obtained from the Istanbul Medipol University Ethics Committee (approval number: 10840098-772.02-E.62969), and permission was obtained from the Turkish Ministry of Health General Directorate of Health Services before the commencement of the study. After informing the women about the experiment, those who agreed to participate and read and signed the consent forms prepared specially for each group were included in the study. The study was conducted in compliance with the "ethical principles for medical research involving human participants" of the Declaration of Helsinki.

Limitations: Due to the ongoing COVID-19 pandemic, this study was conducted remotely. As some women did not use technology to the desired extent, and due to internet access limitations, online video calls with women could not be held. Another limitation of our study was that the diaphragmatic breathing exercise method was not compared to other techniques

RESULTS AND DISCUSSION

Table 1. Intergroup comparisons of the descriptive characteristics of the participants in the experimental and control groups

Descriptive Characteristics	Experimental Group (n=34)		Control Group (n=34)		Test and p-value
	n	%	n	%	
Age					
46-50 years old	10	29.4	5	14.7	χ^2=2.754
51-55 years old	15	44.1	15	44.1	p =0.252
56-60 years old	9	26.5	14	41.2	
Educational Level					
Primary Education	10	29.4	14	41.2	χ^2=3.060
Secondary Education	13	38.2	15	44.1	p=0.217
University	11	32.4	5	14.7	
Working					
Yes	9	26.5	10	51.3	χ^2=0.073
No	25	73.5	24	48.7	p=0.787
Marital Status					
Married	30	88.2	31	91.2	χ^2=0.159
Single	4	11.8	3	8.8	p=0.690
Income Status					
Income less than expenses	18	61.8	21	52.9	χ^2=0.659
Income equivalent to expenses	12	26.4	9	35.3	p=0.719
Income more than expenses	4	11.8	4	11.8	
Duration of Menopausal Period					
1-5 years	26	76.5	21	61.8	χ^2=1.722
6-10 years	8	23.5	13	38.2	p=0.189
Smoking					
Yes	4	11.8	5	14.7	χ^2=0.128
No	30	88.2	29	85.3	p=0.720
Do hot flashes affect your daily activities?					
Yes	18	52.9	13	38.2	χ^2=1.482
No	16	47.1	21	61.8	p=0.223
Did the COVID-19 pandemic period cause a change in the frequency of your menopausal hot flashes?					
Increased	18	52.9	14	41.2	χ^2=2.023
Reduced	6	17.6	11	32.4	p=0.364
No change	10	29.5	9	26.5	
Did the COVID-19 pandemic period cause a change in the intensity of your menopausal hot flashes?					
Increased	16	47.1	10	29.4	χ^2=2.274
Reduced	8	23.5	10	29.4	p=0.321
No change	10	29.4	14	41.2	
TOTAL	34	100	34	100	

*****Chi-Squared Test*

Table 1 shows the results of the intergroup comparisons of the descriptive characteristics of the participants in the experimental and control groups. There was no significant difference between the descriptive characteristics of the groups (p>0.05).

While there was a statistically significant difference between the mean HFRDIS scores

of the experimental group before and after the application ($p<0.05$), there was no such significant difference in the control group ($p>0.05$) (Table 2). Additionally, in this study, Considering the group parameters, the standardization of the difference between the averages was calculated as 0.6976. This significant result has a medium effect size.

Table 2. Intergroup comparison of the mean pretest and posttest Hot Flash-Related Daily Interference Scale scores of the participants

	Groups	Pretest (Mean± SD)	Posttest (Mean± SD)	Test and p-value
Hot Flash-Related Daily Interference Scale	Experimental	82.88±3.60	32.73±6.75	Z=-5.090; [b]**p=0.000****
	Control	81.38±6.01	80.44±3.25	Z=-0.628; [b]p=0.530
	Test and p-value	Z=-1,134; [a]p=0.257	Z=-7.130; [a]**p=0.000****	

*Note. a: Mann-Whitney U Test b: Wilcoxon signed-rank test, *: p<0.05, **: p<0.001, SD: Standard Deviation*

According to the information in the relevant literature, the thermoregulatory mechanism of the body changes during the menopausal transition. So, the thermoregulatory area of the central nervous system becomes narrower and more sensitive to slight changes in internal body temperature. Small temperature increases lead to vasodilation, sweating, and decreased skin resistance, which mean hot flashes.[6,18] Hot flashes are an episodic sensation of warmth that starts suddenly, develops spontaneously, and is usually felt in the neck, chest, and face, followed by sweating. The emergence of hot flashes can be associated with sweating, heart palpitations, fatigue, fainting, headache, weakness, and anxiety, and it can be triggered by emotional stress. In particular, symptoms that impair the quality of life of women are the most common reasons for them to seek medical help in the perimenopausal period.[19,20] Relaxation techniques are used to relieve and prevent hot flashes. Deep breathing exercises are one of these techniques.[21]

Studies have shown that breathing practices reduce menopausal symptoms. Mohan and Almedia determined that the menopausal symptoms of the experimental group in their study decreased significantly with deep breathing exercises compared to the control group.[22] Kumari (2012) observed that the hot flash scores of women in the experimental group in their study who performed deep breathing exercises decreased significantly in the posttest, while no change was observed in the control group.[23] Sood et al. (2013) compared paced breathing (slow, deep, diaphragmatic breathing) to regular breathing and determined that hot flashes were reduced by 52% in the group that performed paced breathing twice a day, 42% in those who performed paced breathing once a day, and 46% in those who performed typical breathing.[24] Asha et al. (2020), who compared the effectiveness of soybean and diaphragmatic breathing exercises on menopausal symptoms, determined that diaphragmatic breathing exercises were more effective than soybeans in reducing symptoms. In this study, the hot flash-related complaints decreased in the experimental group in which the participants performed diaphragmatic breathing exercises, and the participants in the control group did not show any significant change.[7] A study by Deb and Gurumayum (2021) investigated the effectiveness of deep breathing and walking exercise in reducing menopause symptoms; The finding of this study revealed that breathing and walking exercise improved postmenopausal symptoms in the experimental group.[25] Accordingly, the result of this study was supported by the results in the literature.

It is known that regular deep diaphragmatic breathing practices increase parasympathetic activity, decrease sympathetic activity, improve respiratory-cardiovascular functions, reduce stress, and improve physical and mental health.[26] Menopausal women have limited knowledge of deep breathing exercises and often complain of various menopausal symptoms, such as hot flashes,

weakness, and urinary incontinence.[22] Especially before nighttime hot flashes, women may experience discomfort during habitual thoracic breathing. Therefore, slow diaphragmatic breathing helps reduce hot flashes.[27]

CONCLUSION AND RECOMMENDATIONS

In this study, which was conducted to investigate the effects of diaphragmatic breathing exercises on hot flashes in menopausal Turkish women during the COVID-19 pandemic period, the hot flash complaints of the women in the experimental group were found to decrease after the breathing exercises. No significant difference was observed in the control group.

Due to the ongoing COVID-19 pandemic, this study was conducted remotely. As some women did not use technology to the desired extent, and due to internet access limitations, online video calls with women could not be held. Another limitation of our study was that the diaphragmatic breathing exercise method was not compared to other techniques.

REFERENCES

1. ACOG. (2020) The Menopause Years. Access address: https://www.acog.org/womens-health/faqs/the-menopause-years . (Accessed date: 28.11.2020).

2. Zhu, C, Thomas, N, Arunogiri, S. and Gurvich C. (2022). "Systematic review and narrative synthesis of cognition in perimenopause: The role of risk factors and menopausal symptoms". Maturitas, 164, 76-86. doi:10.1016/j.maturitas.2022.06.010

3. Santoro, N, Epperson, C.N. and Mathews, S.B. (2015). "Menopausal symptoms and their management". Endocrinology & Metabolism Clinics of North America, 44 (3), 497-515. doi:10.1016/j.ecl.2015.05.001

4. Dişli, B. ve Hotun Şahin N. (2022) "Menopoza Özgü Sıcak Basması Ölçeği: Geçerlik ve güvenirlik çalışması". İGUSABDER.;(16):48-62. doi:10.38079/igusabder.1038349

5. McCormick, C.A, Brennan, A. and Hickey, M. (2020). "Managing vasomotor symptoms effectively without hormones". Climacteric, 23 (6), 532-538. doi:10.1080/13697137.2020.1789093

6. Collaborative Group on Hormonal Factors in Breast Cancer. Type and timing of menopausal hormone therapy and breast cancer risk: individual participant meta-analysis of the worldwide epidemiological evidence. Lancet. 2019; 394(10204):1159–1168. doi:10.1016/S0140-6736(19)31709-X

7. Asha, S, Mary, D.S. and Evancy, A.R. (2020). "Effectiveness of soya beans versus diaphragmatic breathing exercise on level of menopausal symptoms among postmenopausal women". International Journal of Nursing Education, 12 (3), 112-115.

8. Sürme, Y. (2019). "Stres, stresle ilişkili hastalıklar ve stres yönetimi". Journal of International Social Research, 12 (64) 525-529. doi:10.17719/jisr.2019.3374

9.Dincer, B, Özçelik, S.K, Özer, Z. and Bahçecik, N. (2022). "Breathing therapy and emotional freedom techniques on public speaking anxiety in Turkish nursing students: A randomized controlled study". Explore, 18(2), 226-233. doi:10.1016/j.explore.2020.11.006

10. Ozdin, S. and Bayrak Ozdin, S. (2020). "Levels and predictors of anxiety, depression and health anxiety during COVID-19 pandemic in Turkish society: The importance of gender". International Journal of Social Psychiatry, 66 (5), 504-511. doi:10.1177/0020764020927

11.Wickens, C.M, McDonald, A.J, Elton-Marshall, T, Wells, S, Nigatu, Y.T, Jankowicz, D. and Hamilton H.A. (2021)."Loneliness in the COVID-19 pandemic: Associations with age, gender and their interaction". Journal of Psychiatric Research, 136, 103-108. doi:10.1016/j.jpsychires.2021.01.047

12.Wang, Y, Di, Y, Ye, J. and Wei W. (2021). "Study on the public psychological states and its related factors during the outbreak of coronavirus disease 2019 (COVID-19) in some regions of China". Psychology, Health & Medicine, 26 (1), 13-22. doi:10.1080/13548506.2020.1746817

13.Ausín, B, González-Sanguino, C, Castellanos, M.Á. and Muñoz, M. (2021) "Gender-related differences in the psychological impact of confinement as a consequence of COVID-19 in Spain. Journal of Gender Studies". 30 (1), 29-38. doi:10.1080/09589236.2020.1799768

14. Sood, R, Kuhle, C.L, Kapoor, E, Thielen, J.M, Frohmader, K.S, Mara K.C. and Faubion, S.S. (2021). "Association of mindfulness and stress with menopausal symptoms in midlife women". Climacteric, 22 (4), 377-382. doi:10.1080/13697137.2018.1551344

15.Carpenter, J.S. (2001). "The Hot Flash Related Daily Interference Scale: A tool for assessing the impact of hot flashes on quality of life following breast cancer". Journal of Pain and Symptom Management, 22 (6), 979-989.

16.Cleveland Clinic, (2020). Diaphragmatic Breathing. Access address: https://my.clevelandclinic.org/health/articles/9445-diaphragmatic-breathing (Accessed date: 15.10. 2020).

17.American Lung Association. (2020). Access Breathing Exercises. Access address: https://www.lung.org/lung-health-diseases/wellness/breathing-exercises. (Accessed date: 15.10.2020).

18.Sturdee, D.W, Hunter, M.S, Maki, P.M, Gupta, P, Sassarini, J, Stevenson J.C. and Lumsdenet M.A. (2017). "The menopausal hot flush: A review". Climacteric, 20 (4), 296-305. doi:10.1080/13697137.2017.1306507

19.Rapkin, A.J. (2007). "Vasomotor symptoms in menopause: Physiologic condition and central nervous system approaches to treatment". American Journal of Obstetrics & Gynecology, 196 (2), 97-106. doi:10.1016/j.ajog.2006.05.056

20.Politi, M.C, Schleinitz, M.D. and Col, N.F. (2008). "Revisiting the duration of vasomotor symptoms of menopause: A meta-analysis". J Gen Intern Med, 23 (9), 1507-1513. doi:10.1007/s11606-008-0655-4

21.Fisher, T.E. and Chervenak, J.L. (2012). "Lifestyle alterations for the amelioration of hot flashes". Maturitas, 71 (3), 217–220.

22.Mohan, A. and Almedia, S.D. (2019). "To evaluate the effectiveness of deep breathing exercises on menopausal symptoms among menopausal mothers in selected community area, Mangaluru". International Journal of Scientific Research and Management. 07 (7), 201-204. doi:10.18535/ijsrm/v7i7.mp01

23.Kumari, K.R.V. (2012). "A study to evaluate the effectiveness of deep breating exercise on hot flushes among menopausal women in selected community at Madurai", Master's thesis, Chennai: DR. MGR Medical University.

24. Sood, R, Sood, A, Wolf, S.L, Linquist, B.M, Liu, H, Sloan, J.A, Satele, D.V, Loprinzi, C.L. and Barton D.L. (2013). "Paced breathing compared with usual breathing for hot flashes". Menopause, 20 (2), 179-184. doi:10.1097/gme.0b013e31826934b6

25.Deb, K. and Gurumayum, D. (2021). " Effectiveness of deep breathing and walking exercise in reducingmenopausal symptoms among post-menopausalwomen of Tripura, India". International Journal of Community Medicine and Public Health, 8 (6), 2881-2888. doi: 10.18203/2394-6040.ijcmph20211989

26.Yalçın, E. ve Özbaşaran, F. (2021). "Nefes terapisinin genel sağlık ve kadın sağlığı üzerine etkileri". İZÜFBED. 3 (2) 106-111. doi:10.47769/izufbed.866042

27.Tal-Joshua, Z, Suh-Sooyeon, A, Dowdle-Claire, L and Nowakowski, S. (2015). "Treatment of insomnia, ınsomnia symptoms, and obstructive sleep apnea during and after menopause: Therapeutic approaches". Curr Psychiatry Rev, 11 (1), 63-83. doi: 10.2174/1573400510666140929194848.

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PI3K And mTOR Immunoreactivity In Testicular Tissue In Experimental Alcohol Addiction Model

Deneysel Alkol Bağımlılığı Modelinde Testis Dokusunda PI3K Ve mTOR İmmünoreaktivitesi

Osman ÖZTÜRK[1], Aslı OKAN[2], Mustafa KURT[3], Ece EROĞLU[4], Seher YILMAZ[5], A. Cihangir UĞUZ[6], Mert OCAK[7], Züleyha DOĞANYİĞİT[2*]

ABSTRACT

Alcohol use disorder has negative effects on the reproductive system by increasing oxidative stress and causing damage to DNA integrity. Phosphatidylinositol-3-kinase (PI3K) and mammalian target of rapamycin (mTOR) levels, which are involved in oxidative stress, may play a key role in the reproductive system disorder caused by alcohol use. PI3K and mTOR immunoreactivities were evaluated in testicular tissue in acute and chronic alcohol intake model in male rats (n=21). Rats were divided into 3 groups control (n=7), acute model (n=7), and chronic model (n=7). Histopathological analysis of testicular tissues taken from the experimental groups was performed by hematoxylin-eosin (H&E) staining. Then, the experimental groups' testicular tissues were dissected and the immunohistochemistry method determined PI3K and mTOR expressions. According to the H&E staining results, when the experimental groups were compared with the control group, spermatozoa were less or absent in acute and chronic groups. mTOR and PI3K expressions were significantly increased in testicular tissues belonging to chronic and acute alcohol model groups. mTOR and PI3K expressions significantly increased in the chronic alcohol model compared to the other groups.This study reveals that PI3K and mTOR molecules, which participate in oxidative stress, increase short- and long-term alcohol consumption and that these molecules may be associated with damage to the reproductive system.

Keywords: Oxidative stress, Alcohol addiction, Reproductive system, Immunohistochemistry

ÖZ

Alkol kullanım bozukluğu, oksidatif stresi artırarak ve DNA bütünlüğünün bozulmasına neden olarak üreme sistemi üzerinde olumsuz etkilere sahiptir. Oksidatif streste rol oynayan fosfatidilinositol-3-kinaz (PI3K) ve rapamisin memeli hedefi (mTOR) düzeyleri, alkol kullanımının neden olduğu üreme sistemi bozukluğunda anahtar rol oynayabilir. Erkek sıçanlarda (n=21) akut ve kronik alkol alım modelinde testis dokusunda PI3K ve mTOR immünreaktiviteleri değerlendirildi. Sıçanlar kontrol (n=7), akut model (n=7) ve kronik model (n=7) olmak üzere 3 gruba ayrıldı. Deney gruplarından alınan testis dokularının histopatolojik analizi hematoksilen-eozin (H&E) boyama ile yapıldı. Daha sonra deney gruplarının testis dokuları disseke edildi ve immünohistokimya yöntemiyle PI3K ve mTOR ekspresyonları belirlendi. H&E boyama sonuçlarına göre deney grupları kontrol grubuyla karşılaştırıldığında akut ve kronik gruplarda spermatozoanın az olduğu veya hiç olmadığı görüldü. Kronik ve akut alkol model gruplarına ait testis dokularında mTOR ve PI3K ekspresyonları anlamlı derecede arttı. mTOR ve PI3K ekspresyonları kronik alkol modelinde diğer gruplarla karşılaştırıldığında anlamlı düzeyde arttı. Bu çalışma, oksidatif strese katılan PI3K ve mTOR moleküllerinin kısa ve uzun süreli alkol tüketimini artırdığını ve bu moleküllerin üreme sistemi hasarıyla ilişkili olabileceğini ortaya koymaktadır.

Anahtar Kelimeler: Oksidatif stres, Alkol bağımlılığı, Üreme sistemi, İmmünohistokimya

Ethics committee approval was obtained for this study (Protocol number: 23/112).

[1] Dr, Osman ÖZTÜRK, Pediatri, Bozok Üniversitesi Tıp Fakültesi Çocuk Sağlığı ve Hastalıkları ABD, epostosman@hotmail.com, ORCID: 0000-0003-1156-7419
[2] Dr, Aslı OKAN OFLAMAZ, Histoloji ve Embriyoloji, Bozok Üniversitesi Tıp Fakültesi Histoloji ve Embriyoloji ABD, oflamaz.asly@gmail.com, ORCID: 0000-0001-8152-7338
[3] Dr, Mustafa KURT, Jinekoloji, Etlik Zübeyde Hanım Kadın Hastalıkları Eğitim ve Araştırma Hastanesi, dr_mustafa06@hotmail.com, ORCID: 0000-0002-9017-9643
[4] Dr, Ece EROĞLU, Tıp öğrencisi, Bozok Üniversitesi Tıp Fakültesi, dreceeroglu@gmail.com, ORCID: 0000-0001-6385-479X
[5] Dr, Seher YILMAZ, Anatomi, Bozok Üniversitesi Tıp Fakültesi Anatomi ABD, sehery38@hotmail.com, ORCID: 0000-0003-4551-995X
[6] Dr, A. Cihangir UĞUZ, Biyofizik, Karamanoğlu Mehmetbey Üniversitesi Tıp Fakültesi Biyofizik ABD, cihangiruguz@yahoo.com, ORCID: 0000-0002-5778-581X
[7] Dr, Mert OCAK, Anatomi, Ankara Üniversitesi Diş Hekimliği Fakültesi Temel Tıp Bölümü, mocak@ankara.edu.tr, ORCID: 0000-0001-6832-6208
[2*] Dr, Züleyha DOĞANYİĞİT, Histoloji ve Embriyoloji, Bozok Üniversitesi Tıp Fakültesi Histoloji ve Embriyoloji ABD, zuleyha.doganyigit@gmail.com, ORCID: 0000-0002-6980-3384

İletişim / Corresponding Author: Züleyha DOĞANYİĞİT
e-posta/e-mail: zuleyha.doganyigit@gmail.com

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INTRODUCTION

Excessive alcohol consumption is one of the causes of preventable deaths and kills approximately 3 million people worldwide every year. The high levels of alcohol intake in the population are essentially responsible for the elevated morbidity and mortality from alcohol-related diseases.[1-2]

The organ where ethanol is oxidized is the liver. Thus, ethanol causes the synthesis of toxic and carcinogenic metabolites acetaldehyde and acetate. Ethanol's ability to interact with lipids enables it to influence physiological cellular pathways.[3] There is a significant association that acute and chronic alcohol intake will lead to various types of cancer such as gastrointestinal cancer, kidney diseases such as chronic kidney disease, hypertensive heart diseases, and liver diseases such as hepatitis and cirrhosis.[4-5] In addition, alcohol use disorder has negative effects on the reproductive system by increasing oxidative stress and causing damage to DNA integrity.[3]

Acute and chronic alcohol use adversely affects the male reproductive system. Alcohol intake reduces semen parameters by lowering testosterone levels. The effect of alcohol on testosterone can be attributed to direct testicular toxicity and modifications of the hormone feedback mechanism in the pituitary gland and hypothalamus.[6] Also, alcohol use disorder is strongly associated with oxidative stress.

The situation that deteriorates in favor of oxidant products in our body is defined as oxidative stress. This stress is shown as the main cause of many diseases such as DNA damage, neurodegenerative disorders, and infertility.[7] Oxidative stress-related lipid peroxidation can cause cell injury, intracellular membrane, and cell destruction. Hypoxia causes loss of effectiveness of antioxidant mechanisms and increased free radical formation in the mitochondrial electron system.[8] Phosphatidylinositol-3-kinase (PI3K), a serine/threonine protein kinase (AKT), involved in oxidative stress in the cell, is a major target in the pathology of diseases.[9] Also, the PI3K protein mediates an essential role in cell growth, proliferation, metabolism, and tumor metastasis, it is regulated by various signaling proteins.[10] The PI3K-associated mammalian target of the rapamycin (mTOR) pathway is involved in various functions such as growth factor signaling and nutritional status to drive eukaryotic cell growth.[11] Alcohol use disorder has been associated with increased oxidative stress via catalase metabolic pathways, microsomal ethanol oxidation system, and alcohol dehydrogenase.[12]

With alcohol consumption, the production of free radicals increases or antioxidant levels decrease, which may cause oxidative damage.[13] Ethanol metabolism plays a direct role in the release of reactive nitrogen and oxygen species. Ethanol treatment reduces antioxidant activity by causing the depletion of induced glutathione (GSH) levels.[14] In addition, alcohol use disorder is also harmful to the germ cells in the testicle due to oxidative stress.[13]

In alcohol use disorder, pathologies in coexistent hormonal subsystems that interact with the hypothalamus-pituitary-gonadal axis also play a role in gonadal testosterone suppression.[15] In this context, PI3K and mTOR molecules, which are involved in oxidative stress related to alcohol use disorder, may accompany the cellular damage mechanism. In this study, histopathological evaluation as well as P13K and mTOR immunoreactivity were observed in testicular tissue in acute and chronic alcohol intake exposure.

MATERIAL AND METHODS

Experimental Groups

Control Group (n=7): No treatment was applied to the animals.

Acute Group (n=7): The protocol in the study of Nguyen et al. was used to build an acute alcohol model in this study.[16] Similarly, in this present study, McCormark et al. and Mugli et al. protocol was used.[17,18] To the animals in this group, a total volume (2ml) of 18% v/v ethanol prepared in distilled water was administered by oral gavage (o.g) at a total dose of 1 g/kg/bw.[16]

Chronic Group (n=7): To the animals in this group, a total volume (2ml) of 20% v/v ethanol prepared in distilled water was administered by o.g at a total dose of 4.5 g/kg/bw.[19] Afterward, the test animals were then sacrificed and the testicular tissues were removed.

Histopathological Study

Routine paraffin tissue follow-up was performed to examine the histological changes in testicular tissues of the experimental groups. Testicular tissues were fixed in 10% formaldehyde fixative for 12 hours. After washing in tap water (4 hours), the tissues were kept in 70%, 80%, and 90% alcohol series for 24 hours and in 100% alcohol for 3 hours to perform the water recovery process. The testicles were cleared in Xylol for 15 minutes. Then the tissues were paraffinized three times for 1 hour in an oven at 58^{o}C. At the end of the third hour, the tissues were embedded in clean paraffin in the appropriate orientation. Serial sections (5 μm) were taken from testicular paraffin blocks using a microtome, and were placed on normal slides with milling for H&E staining. 7 serial sections from the tissues taken from each animal in the experimental groups were evaluated under the Olympus BX51 light microscope and viewed with a DP71 model digital camera. Testicular tissues were evaluated using the Johnsen scoring method (Table 1).[20]

Immunohistochemistry Analysis

mTOR (sc-517464, Santa Cruz Biotechnology Inc), and PI3K (sc-1637, Santa Cruz Biotechnology Inc) immunoreactivities in the sections taken from testicular tissues of experimental groups were analyzed by the Avidin-Biotin peroxidase method.[21] Sections were examined with an Olympus BX53 light microscope. Assessment of immunoreactivity levels was performed with Image J Version 1.46.

Statistical Tests

The mean Johnsen score data and immunostaining intensities were compared with a one-way analysis of variance using the GraphPad Prism 8 Version 8.4.3 program. Differences between groups were determined by applying Tukey's multiple comparison test ($p<0.05$ significant).

RESULTS AND DISCUSSION

According to the H&E staining, the histopathological effects of acute and chronic alcohol intake on testicular tissues were compared with the control groups and evaluated under a light microscope. Haphazardly selected 15-20 seminiferous tubules in each section taken from the testicular tissues of each animal were examined histologically. When the experimental groups were compared with the control group; in acute and chronic groups, little or no spermatozoa, slightly impaired spermatogenesis, impaired integrity in the seminiferous tubules, and irregularity in the cells in the tubule were observed (Figure 1A). The damage observed in the chronic and acute groups was greater than in the control groups. The Johnsen score of the chronic group (6.84 ± 0.53) was significantly lower than the control group (8.38 ± 0.30) ($p<0.0001$), but similar to the acute group (6.99 ± 0.41) ($p=0.2276$).

mTOR and PI3K expressions increased significantly in testicular tissues belonging to

chronic and acute alcohol model groups. In the chronic alcohol model, mTOR expression increased 2.17-fold compared to the control group and 1.71-fold compared to the acute alcohol model. It was determined that mTOR expression increased 1.26-fold in the acute alcohol model compared to the control group. In the chronic alcohol model, PI3K expression increased 3.11-fold compared to the control group and 1.82-fold compared to the acute alcohol model. PI3K expression in the acute alcohol was 1.7-fold more increased than in the control group (Figs. 1C and 1D).

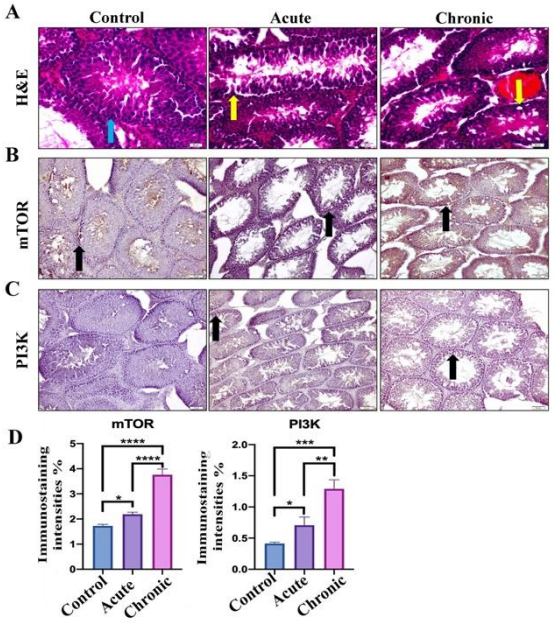

Figure 1. A) H&E staining images of testicular samples. The blue arrow shows complete spermatogenesis, and the yellow arrow shows disrupted seminiferous tubules and irregularity in the cells within the tubule. Magnification 40X and scale bar 20 µm. B) mTOR immunostaining images. C) PI3K immunostaining imaages. D) Bar graphs show the immunostaining intensity of mTOR and PI3K (%). Magnification is 20X and the scale bar is 50 µm.

Tablo 1. Johnsen Score In Testıs

Score	HISTOLOGICAL CRITERIA
1	There are no cells in the seminiferous tubules.
2	There are no germ cells, only Sertoli cells.
3	There are only spermatogonia as germ cells.
4	No spermatozoa and spermatids, few spermatocytes.
5	There are no spermatozoa and spermatids, there are a large number of spermatocytes.
6	No spermatozoa and few (<10) spermatids.
7	No spermatozoa, no late spermatids, but many early spermatids.
8	There are late spermatids that do not contain mature spermatozoa.
9	Slightly impaired spermatogenesis, many late spermatids, irregular epithelium.
10	Complete spermatogenesis.

This research revealed that PI3K and mTOR immunoreactivity in testicular tissue increased with both acute and chronic alcohol consumption. In the chronic alcohol model, mTOR expression was increased compared to the control and acute alcohol groups ($p<0.05$). PI3K expression was significantly increased in the chronic alcohol model compared to the control and acute alcohol groups. These data show that PI3K and mTOR in the PI3K/AKT/mTOR signaling pathway, which is one of the signaling pathways that regulate the oxidant balance in the body, can be histopathologically modulated in acute and chronic alcohol exposure. Hence, there may be an association between damage to the alcohol-induced reproductive system and PI3K and mTOR proteins, which are implicated in the oxidative stress reaction.

Alcohol undergoes dehydrogenation to acetaldehyde, producing acetyl and methyl radicals.[22,23] These metabolites are responsible for the of reactive oxygen species. Therefore, regular alcohol use triggers lipid peroxidation by overproduction of reactive oxygen species, lowers superoxide dismutase (SOD) antioxidant activity, and lowers GSH levels.[24] Alcohol use disorder also harms testicular germ cells related to oxidative stress.[13]

In a study in 2011, it was shown that alcohol causes degeneration in the

seminiferous tubules in the testis and morphological damage in the spermatogenic series cells starting from the early period and continuing in the adult period starting from the early development period.[25] It has also been shown by previous studies that ethanol reduces the reproductive activity of spermatogonia at all stages of the seminiferous tubule cycle, and that chronic ethanol use suppresses spermatogenic competence and leads to gonadal dysfunction, and inhibits male reproductive activity by preventing spermatogenesis.[26,27] The use of ethanol reduces the reproductive activity of spermatogonia and spermatogenic activity.[28] In this study, following the literature, when the experimental groups were compared with the control group; It was observed that spermatozoa were less or absent in acute and chronic groups, the integrity of the seminiferous tubules was impaired with impaired spermatogenesis, and there was irregularity in the cells in the tubule.

It has been reported that ethanol significantly reduces cell proliferation rates, culture growth, viability, and migration capacity, and these effects include PI3K and mTOR.[29] Among the factors that negatively affect the reproductive system in alcohol use disorder, PI3K and mTOR, which are involved in oxidative stress, can be included. The biological mechanisms of why alcohol will affect reproduction are still not fully elucidated. It has been suggested in the literature that alcohol may reduce reproduction by altering endogenous hormone concentrations. Compared to not drinking alcohol, 14 alcoholic drinks per week were found to be associated with suppressing folliculogenesis and ovulation by affecting FSH secretion and estrogen amount.[30]

Alcohol consumption may also be associated with the intake of other toxic substances found in alcoholic beverages, such as ethyl carbamates and food additives.[31] The evaluation of multi-factors in the mechanism of reproduction related to alcohol use disorder should be considered. For alcohol consumption and reproductive effects, different ethnicities, diagnostic methods and dietary habits can also be explained as part of the disparity in alcohol sensitivity.[32]

CONCLUSION AND RECOMMENDATIONS

This research revealed increased immunoreactivity of PI3K and mTOR in testis cellular damage in reproductive functions induced by acute and chronic alcohol consumption. In future studies, more detailed data can be obtained by showing protein and mRNA analysis of other components involved in oxidative stress in the same organs.

REFERENCES

1. Witkiewitz, K., Litten, R.Z. and Leggio, L. (2019). "Advances in the science and treatment of alcohol use disorder". Science advances, 5 (9), eaax4043.
2. GBD 2016 Alcohol Collaborators (2018). "Alcohol use and burden for 195 countries and territories, 1990-2016: a systematic analysis for the Global Burden of Disease Study" 2016. Lancet (London, England), 392 (10152), 1015–1035.
3. Finelli, R., Mottola, F. and Agarwal, A. (2021). "Impact of Alcohol Consumption on Male Fertility Potential: A Narrative Review". International journal of environmental research and public health, 19 (1), 328.
4. Dguzeh, U., Haddad, N.C., Smith, K.T.S., Johnson, J.O., Doye, A.A., Gwathmey, J.K. and Haddad, G.E. (2018). "Alcoholism: A Multi-Systemic Cellular Insult to Organs". International journal of environmental research and public health, 15 (6), 1083.
5. Iranpour, A. and Nakhaee, N. (2019). "A Review of Alcohol-Related Harms: A Recent Update". Addiction & health, 11 (2), 129–137.
6. Oremosu, A.A. and Akang, E.N. (2015). "Impact of alcohol on male reproductive hormones, oxidative stress and semen parameters in Sprague–Dawley rats". Middle East Fertility Society Journal, 20 (2), 114-118.
7. Pizzino, G., Irrera, N., Cucinotta, M., Pallio, G., Mannino, F., Arcoraci, V., Squadrito, F., Altavilla, D. and Bitto, A. (2017). "Oxidative Stress: Harms and Benefits for Human Health". Oxidative medicine and cellular longevity, 2017, 8416763.
8. Burton, GJ. and Jauniaux, E. (2011). "Oxidative stress. Best practice & research". Clinical obstetrics & gynaecology, 25 (3), 287–299.
9. Datta, S.R., Brunet, A. and Greenberg, M.E. (1999). "Cellular survival: a play in three Akts". Genes & development, 13 (22), 2905–2927.
10. Ersahin, T., Tuncbag, N. and Cetin-Atalay, R. (2015). "The PI3K/AKT/mTOR interactive pathway". Molecular bioSystems, 11 (7), 1946–1954.
11. Liu, G.Y. and Sabatini, D.M. (2020). "mTOR at the nexus of nutrition, growth, ageing and disease". Nature reviews. Molecular cell biology, 21 (4), 183–203.
12. Tsermpini, E.E., Plemenitaš Ilješ, A. and Dolžan, V. (2022). "Alcohol-Induced Oxidative Stress and the Role of Antioxidants in Alcohol Use Disorder: A Systematic Review". Antioxidants (Basel, Switzerland), 11 (7), 1374.

13. Emanuele, M.A. and Emanuele, N. (2001). "Alcohol and the male reproductive system". Alcohol research & health : the journal of the National Institute on Alcohol Abuse and Alcoholism, 25 (4), 282–287.
14. Das, S.K. and Vasudevan, D.M. (2007). "Alcohol-induced oxidative stress". Life sciences, 81 (3), 177–187.
15. Ogilvie, K.M. and Rivier, C. (1997). "Gender difference in hypothalamic-pituitary-adrenal axis response to alcohol in the rat: activational role of gonadal steroids". Brain research, 766 (1-2), 19–28.
16. Nguyen, T.M.T., Steane, S.E., Moritz, K.M. and Akison, L.K. (2019). "Prenatal alcohol exposure programmes offspring disease: insulin resistance in adult males in a rat model of acute exposure". The Journal of physiology, 597 (23), 5619–5637.
17. McCormack, C., Hutchinson, D., Burns, L., Wilson, J., Elliott, E., Allsop, S., Najman, J., Jacobs, S., Rossen, L., Olsson, C. and Mattick, R. (2017). "Prenatal Alcohol Consumption Between Conception and Recognition of Pregnancy". Alcoholism, clinical and experimental research, 41 (2), 369–378.
18. Muggli, E., O'Leary, C., Donath, S., Orsini, F., Forster, D., Anderson, P.J. and Halliday, J. (2016). "Did you ever drink more?" A detailed description of pregnant women's drinking patterns. BMC Public Health, 16 (1), 1-13.
19. Bonthius, D.J. and West, J.R. (1990). "Alcohol-induced neuronal loss in developing rats: increased brain damage with binge exposure". Alcoholism, clinical and experimental research, 14 (1), 107–118.
20. Xu, L.Z., He, K.X., Ning, J.Z. and Cheng, F. (2022). "Oleuropein attenuates testicular ischemia-reperfusion by inhibiting apoptosis and inflammation". Tissue & cell, 78, 101876.
21. Okan, A., Doğanyiğit, Z., Eroğlu, E., Akyüz, E. ve Demir, N. (2021). "Immunoreactive definition of TNF- α, HIF-1 α, Kir6.2, Kir3.1 and M2 muscarinic receptor for cardiac and pancreatic tissues in a mouse model for type 1 diabetes". Life sciences, 284, 119886.
22. Kovacic, P. (2005). "Unifying mechanism for addiction and toxicity of abused drugs with application to dopamine and glutamate mediators: electron transfer and reactive oxygen species". Medical hypotheses, 65 (1), 90–96.
23. Toda, N. and Ayajiki, K. (2010). "Vascular actions of nitric oxide as affected by exposure to alcohol". Alcohol and alcoholism (Oxford, Oxfordshire), 45 (4), 347–355.
24. Agarwal, A., Aponte-Mellado, A., Premkumar, B.J., Shaman, A. and Gupta, S. (2012). "The effects of oxidative stress on female reproduction: a review". Reproductive biology and endocrinology, 10, 49.
25. Çanıllıoğlu, Y.E. and Ercan, F. (2011). "In utero etanol uygulamasının sıçan testis morfolojisi üzerine etkileri". Acıbadem Üniversitesi Sağlık Bilimleri Dergisi 1, 10-16.
26. El-Sokkary, G.H. (2001). "Quantitative study on the effects of chronic ethanol administration on the testis of adult male rat". Neuro endocrinology letters, 22 (2), 93–99.
27. Salonen, I. and Huhtaniemi, I. (1990). "Effects of chronic ethanol diet on pituitary-testicular function of the rat". Biology of reproduction, 42 (1), 55-62.
28. Koh, P.O. and Kim, M.O. (2006). "Ethanol exposure decreases cell proliferation and increases apoptosis in rat testes". The Journal of veterinary medical science, 68 (10), 1013–1017.
29. Correia-Branco, A., Keating, E. and Martel, F. (2018). "Involvement of mTOR, JNK and PI3K in the negative effect of ethanol and metformin on the human first-trimester extravillous trophoblast HTR-8/SVneo cell line". European journal of pharmacology, 833, 16–24.
30. Reichman, M.E., Judd, J.T., Longcope, C., Schatzkin, A., Clevidence, B.A., Nair, P.P., Campbell, W.S. and Taylor, P.R. (1993). "Effects of alcohol consumption on plasma and urinary hormone concentrations in premenopausal women". Journal of the National Cancer Institute, 85 (9), 722–727.
31. Taylor, K.C., Small, C.M., Dominguez, C.E., Murray, L.E., Tang, W., Wilson, M.M. and Marcus, M. (2011). "Alcohol, smoking, and caffeine in relation to fecundability, with effect modification by NAT2". Annals of epidemiology, 21 (11), 864-872.
32. Goedde, H.W., Agarwal, D.P., Fritze, G., Meier-Tackmann, D., Singh, S., Beckmann, G., Bhatia, K., Chen, L.Z., Fang, B. and Lisker, R. (1992). "Distribution of ADH2 and ALDH2 genotypes in different populations". Human genetics, 88 (3), 344–346.

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Evaluation of Serum Biochemical Parameters Primarily Liver Functions in Smokers: A Case-control Study

Sigara İçenlerde Karaciğer Fonksiyonları Başta Olmak Üzere Serum Biyokimyasal Parametrelerinin Değerlendirilmesi: Bir Vaka-kontrol Çalışması

Yılmaz SEZGİN[1], Sinan BECEL[2], Abdurrahman POLAT[3]

ABSTRACT

We investigated the effects of smoking on serum biochemical parameters primarily liver functions and metabolism.

This is a case-control study. The case and control groups were formed by clinical randomization by using the data obtained from the hospital information system and patient records, including age, gender, height, and weight. Smokers were identified as the case group, while non-smokers were identified as the control group. In the comparisons of rates, Chi-square tests were used and in the comparisons of averages, independent sample t and MANCOVA tests were used.

When covariance factors such as age, gender, body mass index, and alcohol use were taken into consideration, it was found that AST, ALT, and GGT were higher in smokers, whereas vitamin D, vitamin B12, and TSH were higher in non-smokers.

We found that smoking has a negative effect on liver and bile functions, and vitamin D values are affected secondary to this negative effect

Keywords: Biochemical parameters, Hepatotoxicity, Metabolism, Smoking.

ÖZ

Sigaranın karaciğer fonksiyonları ve metabolizma başta olmak üzere serum biyokimyasal parametreleri üzerine etkilerini araştırdık.

Bu bir vaka kontrol çalışmasıdır. Olgu ve kontrol grupları hastane bilgi sistemi ve hasta kayıtlarından elde edilen yaş, cinsiyet, boy, kilo gibi veriler kullanılarak klinik randomizasyonla oluşturuldu. Sigara içenler vaka grubu, içmeyenler ise kontrol grubu olarak belirlendi. Oranların karşılaştırılmasında Ki-kare testi, ortalamaların karşılaştırılmasında ise bağımsız örneklem t ve MANCOVA testleri kullanıldı.

Yaş, cinsiyet, vücut kitle indeksi ve alkol kullanımı gibi kovaryans faktörleri dikkate alındığında sigara içenlerde AST, ALT ve GGT'nin, sigara içmeyenlerde ise D vitamini, B12 vitamini ve TSH'nin daha yüksek olduğu görüldü.

Sigaranın karaciğer ve safra fonksiyonlarını olumsuz etkilediğini, bu olumsuz etkiye ikincil olarak D vitamini değerlerinin de etkilendiğini tespit ettik.

Anahtar Kelimeler: Biyokimyasal parametreler, Hepatotoksisite, Metabolizma, Sigara içmek.

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[1] Dr. Öğr. Üyesi, Yılmaz SEZGİN, Aile Hekimliği, SBÜ Trabzon Tıp Fakültesi, drysezgin@gmail.com, ORCID: 0000-0002-3626-0264
[2] Uz. Dr.,Sinan BECEL, Acil Tıp, İstanbul Florence Nightingale Hastanesi, sinanbecel@gmail.com, ORCID: 0000-0003-4269-9879
[3] Uz. Dr., Abdurrahman POLAT, Aile Hekimliği, Bahçelievler Devlet Hastanesi, a_polat21@hotmail.com, ORCID: 0009-0003-6317-7102

İletişim / Corresponding Author: Yılmaz SEZGİN
e-posta/e-mail: drysezgin@gmail.com

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INTRODUCTION

More than 5,000 chemical compounds have been identified in tobacco and tobacco smoke.[1] The most well-known of these substances is nicotine and identified with cigarettes. Nicotine is responsible for the addictive effect of smoking.[2] Smoking is one of the most important risk factors for chronic obstructive pulmonary disease.[3, 4] Smoking is accepted to increase the risk of cardiovascular diseases.[5, 6]

Studies investigating the effects of smoking are mostly focused on the pulmonary and cardiovascular systems. The number of studies on the effects of smoking on other systems such as the gastrointestinal system and urinary system than the pulmonary and cardiovascular systems is not sufficient to establish a consensus on the effects of cigaret on these systems. Recently, the number of studies investigating the relationship between smoking and obesity, and diabetes has been observed to be increased.[7, 8] We investigated the effects of smoking on several serum biochemical parameters and metabolism.

MATERIALS AND METHODS

Study Design

This was designed to be a case-control study.

Population Selection

The sample size was calculated as a minimum of 42 and a maximum of 70, taking into account the high effect size value of 0.80 (from Cohen's table) for the independent sample t-test, 0.05 for the margin of error, and 0.80-0.95 for the statistical power in the G-power program.

The case and control groups were formed by clinical randomization using data obtained from the hospital information system and patient records, including age, gender, height, and weight. The case group included 30 individuals with smoking habit. The control group consisted of 30 individuals with non-smokers, matching with the case group in terms of number, gender, age, and body mass index (BMI). Patients with any known disease and those using medications were not included in the study. Laboratory data of individuals who met the inclusion criteria among patients who admitted to the family medicine outpatient clinic during the last three months were evaluated for analysis.

Laboratory Testing

The blood samples of the participants were collected at the time of admission. A total of 19 parameters, including creatinine, urea, AST, ALT, GGT, sodium, potassium, albumin, cholesterol, triglyceride, HDL-C, LDL-C, HbA1C, glucose, insulin, vitamin D, vitamin B12, TSH, and free T4 were measured simultaneously for the analysis.

Statistical Analysis

All statistical analyses were performed by using IBM SPSS software (V25). A value of $P < .05$ was considered statistically significant. Categorical data were expressed by numbers and percentages. In the comparison of categorical variables chi-square test was used. Numerical data were expressed by mean values. In the comparison of the means, independent sample t-tests and MANCOVA tests were used. The compliance of the variances with normal distribution was tested by using Box's and Levene's tests.

RESULTS AND DISCUSSION

There was no difference between the case and control groups in terms of gender and BMI. However, the rate of alcohol use was lower in the case group compared to the control group. The mean age was higher in the case group compared to the control group (Table 1).

Table 1. Comparison of the age, BMI, gender and using alcohol in between case and control groups

Characteristics of participants		Case (n=30)	Control
Age: Mean (SD)*		25.80 (3.84)	22.30 (5.54)
BMI: Mean (SD)		23.21 (2.73)	22.66 (2.69)
Gender: n (%)	Female	15 (25)	15 (25)
	Male	15 (25)	15 (25)
Alcohol: n (%)*	Yes	7 (11.7)	14 (23.3)
	No	23 (38.3)	16 (26.7)

SD: Standard Deviation; *The statistical significant different was accepted as $P < 0.05$ level (2-tailed)

According to independent sample t test analysis between smokers and non-smokers; were found significant differences in terms of serum AST, ALT, GGT, LDL-C, vitamin D, vitamin B12 and TSH levels. We found that AST, ALT GGT, and LDL-C levels were higher in the case group, whereas vitamin D, vitamin B12 and TSH levels were higher in the control group (Table 2).

Tablo 2. Comparison of the serum biochemical parameters in between case and control groups

	Case (n=30)	Control (n=30)	t	P value
	Mean (SD)			
Creatinine (mg/dL)	0.71 (0.27)	0.69 (0.26)	0.15	.881
Urea (mg/dL)	27.63 (8.35)	24.20 (5.30)	1.90	.062
AST (U/L)	25.90 (10.84)	17.70 (5.42)	3.70	.001*
ALT (U/L)	22.50 (10.01)	15.30 (6.04)	3.37	.001*
GGT (U/L)	19.80 (7.07)	15.06 (5.31)	2.92	.005*
Sodium (mmol/L)	140.60 (3.94)	140.23 (2.69)	0.42	.676
Potassium (mmol/L)	4.18 (0.29)	4.22 (0.38)	-0.41	.684
Albumin (g/L)	4.38 (0.35)	4.34 (0.22)	0.40	.688
Cholesterol (mg/dL)	157.50 (24.03)	155.46 (23.09)	0.33	.740
Triglycerides (mg/dL)	84.10 (26.37)	73.16 (34.15)	1.38	.171
HDL-C (mg/dL)	55.66 (12.48)	53.26 (10.92)	0.79	.431
LDL-C (mg/dL)	90.43 (18.33)	78.96 (21.70)	2.21	.031*
HbA1C (%)	5.17 (0.41)	5.29 (0.21)	-1.41	.163
Glucose (mg/dL)	87.20 (6.89)	84.96 (8.60)	1.10	.272
Insulin (µU/mL)	9.09 (5.98)	7.95 (7.39)	0.65	.512
Vitamin D (ng/mL)	14.50 (3.34)	18.76 (9.01)	-2.42	.019*
Vitamin B12 (ng/L)	110.30 (52.03)	167.66 (78.85)	-3.32	.002*
TSH (mIU/L)	1.27 (0.47)	1.93 (0.86)	-3.62	.001*
Free T4 (ng/dL)	0.81 (0.15)	0.82 (0.14)	-0.16	.869
HOMA-IR	1.97 (1.34)	1.75 (2.04)	0.47	.635

SD: Standard Deviation; *İndependent simple t test is significant at the $P < .05$ level (2-tailed).

According to one-way MANCOVA analysis performed by taking into consideration covariance factors including age, gender, BMI and alcohol use between smokers and non-smokers were found significant differences in terms of serum biochemical parameters. The assumption of variance equality could not be met, since the value of P obtained from the box's test result

was less than .05 (P = .001). In this case, pillai's trace results were taken into account for MANCOVA test statistics (pillai's trace = 0.57, F[20, 35] = 2.36, P = .013). When the covariance factors were considered, we found that the difference between the two groups continued for AST, ALT, GGT, vitamin D, vitamin B12, and TSH, whereas the difference did not continued for LDL-C (Table 3).

There was no significant difference between the case group and the control group in terms of glycemic parameters. However, HOMA-IR values were higher in the case group while HbA1C values were higher in the control group (Table 3).

Table 3 **Comparison of serum biochemical parameters between case and control groups, taking into account covariate factors**

	Case (n=30)	Control (n=30)	Levene's	F	*P* value
	Mean[a] (SE)				
Creatinine (mg/dL)	0.69 (0.04)	0.71 (0.04)	0.901	0.13	.713
Urea (mg/dL)	27.46 (1.23)	24.37 (1.23)	0.001	2,85	.097
AST (U/L)	25.97 (1.65)	17.62 (1.65)	0.040	11.67	.001*
ALT (U/L)	22.73 (1.59)	15.06 (1.59)	0.002	10.63	.002*
GGT (U/L)	19.51 (1.08)	15.34 (1.08)	0.532	6.72	.012*
Sodium (mmol/L)	140.68 (0.60)	140.15 (0.60)	0.085	0.34	.558
Potassium (mmol/L)	4.20 (0.06)	4.19 (0.06)	0.053	0.01	.916
Albumin (g/L)	4.38 (0.05)	4.34 (0.05)	0.392	0.22	.641
Cholesterol (mg/dL)	156.99 (4.54)	155.97 (4.54)	0.842	0.02	.880
Triglycerides (mg/dL)	83.98 (5.85)	73.28 (5.85)	0.134	1.52	.222
HDL-C (mg/dL)	55.48 (0.05)	53.45 (0.05)	0.803	0.36	.547
LDL-C (mg/dL)	89.44 (3.90)	79.95 (3.90)	0.463	2.70	.106
HbA1C (%)	5.17 (0.05)	5.30 (0.05)	0.024	2.43	.124
Glucose (mg/dL)	87.37 (1.53)	84.78 (1.53)	0.147	1.30	.259
Insulin (µU/mL)	9.38 (1.29)	7.66 (1.29)	0.843	0.80	.373
Vitamin D (ng/mL)	14.74 (1.23)	18.52 (1.23)	0.070	4.29	.043*
Vitamin B12 (ng/L)	105.80 (12.37)	172.16 (12.37)	0.045	13.18	.001*
TSH (mIU/L)	1.30 (1.12)	1.89 (1.12)	0.006	10.91	.002*
Free T4 (ng/dL)	0.80 (0.02)	0.82 (0.02)	0.777	0.23	.629
HOMA-IR	2.03 (0.33)	1.69 (0.33)	0.853	0.46	.496

SE: Standard Error; *One-way MANCOVA is significant at the *P* < .05 level (2-tailed). a: Covariates appearing in the model are evaluated at the following values; age = 24.05, BMI = 22.94, gender = 1.50, alcohol = 1.35

The fact that the alcohol use rate was lower and the average age was higher in the case group in comparison to the control group, indicates that randomization was not performed very well. However, this limitation has been minimized by one-way MANCOVA analyzes performed by considering covariance factors such as age, gender, BMI and alcohol use.

In our study, the higher values of serum AST, ALT, and GGT observed in the case group indicates that smoking affects liver and bile functions, negatively. In the literature

there are studies that support our results. In a study conducted on males, GGT was higher in smokers in comparison to non-smokers.[9] It has also been suggested that smoking causes cellular damage by causing oxidative stress and ultrastructural changes on hepatocytes.[10]

In our study, the lower serum vitamin D values in the case group compared to the control group may be caused by a defect in the vitamin D synthesis in the liver and / or an absorption disorder. Cholecalciferol synthesized in the epidermis or taken with diet turns into 25-hydroxycholecalcidiol in the liver and then to 1,25-hydroxycholecalcitriol as the active form in the kidney.[11] The 25-hydroxycholecalcidiol transformation that takes place in the liver may be impaired due to the negative effects of smoking on hepatocytes. In addition, absorption of Vitamin D, a fat-soluble molecule, may be impaired due to the negative effects of smoking on the biliary system. In the literature, there are a few studies supporting our results, related to vitamin D in our study. However, the reasons for vitamin D deficiency in smokers have not been fully clarified in these studies.[12]

We found that serum vitamin B12 values were lower in the case group compared to the control group. These results are in line with the knowledge in the literature. There are studies suggesting that smoking, which is a source of free radicals, causes serum vitamin B12 levels to decrease.[13-15] The use of tobacco causes the serum cyanide level to increase due to the cyanide it contains. It has been shown that high cyanide levels increase the excretion of thiocyanate from the kidneys, which is associated with a decrease in serum vitamin B12 level.[16]

We found that serum TSH levels were lower in the case group compared to the control group. In the literature, it has been reported that the effects of smoking on thyroid tissue are complex, while smoking generally increases susceptibility to hypertroidism.[17, 18] This relationship between smoking and thyroid functions may be due to vitamin B12 deficiency seen in smokers. Although there is a widespread opinion in the literature that vitamin B12 deficiency and increased levels of homocysteine increase susceptibility to hypothyroidism and autoimmune thyroid diseases, studies on animals suggest contradictory evidence.[19-21] In addition, S adenosyl methionine, a product of the homocysteine methionine cycle with additive vitamin B12 cofactor stimulates TRH and therefore TSH release and TSH receptor interaction.[22]

In our study, we found no difference in kidney function, between smokers and non-smokers. In the literature, it has been reported that kidney functions are affected by smoking due to the increase in nicotine-induced adrenergic activity.[23]

In our study, no significant difference was found between smokers and non-smokers in terms of serum glycemic index and lipid profile. However, HOMA-IR values were higher in the case group while HbA1C values were higher in the control group. HOMA-IR values show the momentary state, while HbA1C shows the last three-month period. These findings indicate that there was a predisposition to hypoglycemia in the smoker group in the past. In a study conducted on obese people, HOMA-IR was found to be higher in smokers compared to non-smokers, but there was no significant difference in serum glucose, insulin, total cholesterol, triglyceride, HDL-C, and LDL-C levels.[24] Nicotine causes hyperglycemia by increasing gluconeogenesis by stimulating catecholamine-mediated glucagon release from the adrenergic medulla.[8] It is plausible that the relationship between smoking and insulin resistance, which is frequently emphasized in the literature, maybe a result rather than a cause. Given the assumption that hyperinsulinemia-induced hypoglycemia episodes seen at the onset of type 2 diabetes can be prevented by increasing gluconeogenesis, nicotine may be preferred due to avoidance behavior.

CONCLUSION AND RECOMMENDATIONS

In conclusion, we suggest that smoking has a negative effect on liver and bile functions, and vitamin D values are affected secondary to this negative effect. In addition, the relationship between smoking and thyroid functions may be due to vitamin B12 deficiency seen in smokers.

Abbreviations

BMI: Bbody mass index; AST: Aspartate aminotransferase; ALT: Alanine aminotransferase; GGT: Gamma-glutamyl transferase; HDL-C: High-density lipoprotein cholesterol; LDL-C: Low-density lipoprotein cholesterol; TSH: Thyroid stimulating hormone; HbA1C: Glycosylated hemoglobin; HOMA-IR: Homeostatic model assessment for insulin resistance; TRH: Thyrotropin releasing hormone

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None

Authors' contributions

The concept and design of the study: Y.S. and S.B.; Data acquisition: Y.S., S.B., and A.P.; Statistical analysis: Y. S.; Analyzed the data and drafted the manuscript: Y.S., S.B. and A.P. All authors read and approved the final version of the manuscript

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Availability of data and materials

The dataset is available from the corresponding author on reasonable request.

Declarations

Ethical approval

The study was approved by the Istanbul Training Research Hospital Clinical Research Ethics Committee (Decision no: 2153). Informed consent was not obtained because of the retrospective study.

Consent for publication

Not applicable.

Conflicts of Interest

The authors declare that no conflicts of interest.

REFERENCES

1. Talhout, R, Schulz, T, Florek, E. and Opperhuizen A. (2011). "Hazardous Compounds in Tobacco Smoke". International Journal of Environmental Research and Public Health, 8, 613-628.
2. Benowitz, N.L. and Henningfield, J.E. (2013). "Reducing the Nicotine Content to Make Cigarettes Less Addictive". Tobacco Control, 22, 14-17.
3. Salvi, S. (2014). "Tobacco Smoking and Environmental Risk Factors for Chronic Obstructive Pulmonary Disease". Clinics in Chest Medicine, 35 (1), 17-27.
4. Laniado-Laborín, R. (2009). "Smoking and Chronic Obstructive Pulmonary Disease (COPD). Parallel Epidemics of the 21st Century". International Journal of Environmental Research and Public Health, 6, 209-224.
5. Banks, E, Joshy, G, Korda, R.J, Stavreski, B, Soga, K, Egger, S, Day, C, Clarke, N.E, Lewington, S. and Lopez, A.D. (2019). "Tobacco Smoking and Risk of 36 Cardiovascular Disease Subtypes: Fatal and Non-fatal Outcomes in a Large Prospective Australian Study". BMC Medicine, 17 (1), 128.
6. Messner, B. and Bernhard, D. (2014). "Smoking and Cardiovascular Disease: Mechanisms of Endothelial Dysfunction and Early Atherogenesis". Arteriosclerosis Thrombosis and Vascular Biology, 34 (3), 509-515.
7. Lee, H, Joe, K.H, Kim, W, Park, J, Lee D.H, Sung, K.W. and Kim, D.J. (2006). "Increased Leptin and Decreased Ghrelin Level After Smoking Cessation". Neuroscience Letters, 409 (1), 47-51.
8. Fagard, R.H. and Nilsson, P.M. (2009). "Smoking and Diabetes-The Double Health Hazard!" Primary Care Diabetes, 3, 205-209.
9. Lee, D, Kang, H.W. and II Kim, Y. (2019). "Association Between Cigarette Smoking and Serum Gamma Glutamyl Transferase Level". International Journal Respiratory and Pulmonary Medicine, 6, 125.
10. Battah, K.A, Badran, D.H. and Shraideh, Z.A. (2016). "Effect of Cigarette Smoking on the Structure of Hepatocytes: TEM Study". International Journal Morphology, 34 (4), 1239-1244.
11. Heath, K.M. and Elovic, E.P. (2016). "Vitamin D Deficiency: Implications in the Rehabilitation Setting". American Journal of Physical Medicine & Rehabilitation, 85, 916-923.
12. Brot, C, Jorgensen, N.R. and Sorensen, O.H. (1999). "The Influence of Smoking on Vitamin D Status and Calcium Metabolism". European Journal of Clinical Nutrition, 53 (12), 920-926.
13. Pivathilake, H.J, Macaluso, M, Hine, R.J, Richards, E.W. and Krumdieck, C.L. (1994). "Local and Systemic Effects of Cigarette Smoking on Folate and Vitamin B12". American Journal of Clinical Nutrition, 60, 559-566.
14. Mcgarry, J.M. and Andrews, J. (1972). "Smoking in Pregnancy and Vitamin B12 Metabolism". British Medical Journal, 2, 74-77.
15. Sezgin, Y. (2019). "Approach to Vitamin B12 Deficiency". Konuralp Medical Journal, 11 (3), 482-488.

16. Linnell, J.C, Smith, A.D, Smith, C.L, Wilson, J. and Matthews, D.M. (1968). "Effects of Smoking on Metabolism and Excretion of Vitamin B12". British Medical Journal, 2, 215-216.

17. Gülcü, F, Polat, S.A. and Gürsü, M.F. (2003). "Aşırı Sigara Kullanımının Tiroid Fonksiyon Testleri ile Eser Element Düzeylerine Etkileri". Turkiye Klinikleri Journal of Medicine Science, 23 (5), 386-391

18. Kim, B.H, Kim, W.B, Kim, T.Y, Jeon, S.H, Lee, C.W. and Shong, Y.K. (2008). "Association Between Cigarette Smoking and Thyroid Function in Adults Without Previous History of Thyroid Disease". Endocrinology and Metabolism, 23 (2), 123-128.

19. Collins, A.B. and Pawlak, R. (2016). "Prevalence of Vitamin B12 Deficiency Among Patients with Thyroid Dysfunction". Asia Pacific Journal of Clinical Nutrition, 25 (2), 221-226

20. Atabek, M.E, Pirgon, O. and Erkul, I. (2003). "Plasma Homocysteine Concentrations in Adolescents with Subclinical Hypothyroidism". Journal of Pediatric Endocrinology and Metabolism, 16 (9), 1245-1248.

21. Jacobs, R.L, Stead, L.M, Brosnan, M.E. and Brosnan, J.T. (2000). "Plasma Homocysteine is Decreased in the Hypothyroid Rat". Canadian Journal of Physiology and Pharmacology, 78 (7), 565-570.

22. Prasad, C, Mori, M, Greeley, G.H, Jr Edwards, R.M, Wilber, J.F. and Pegues, J. (1985). "Biochemical Transmethylation of Lipids and Neuropeptidergic Stimulation of Pituitary Hormone Secretion". Brain Research, 334 (1), 41-46.

23. Cooper, R.G. (2006). "Effect of Tobacco Smoking on Renal Function". Indian Journal of Medical Research, 124 (3), 261-268.

24. Yağbasan, Y, Ersoy, C, Çubukçu, E, Ölmez, Ö.F. and İmamoğlu, Ş. (2008). "Morbid Obez Kadınlarda Sigara İçiminin Obezite İndeksleri, İnsülin Direnci, Kan Basıncı, Glisemi ve Lipid Parametreleri Üzerine Etkilerinin Retrospektif Olarak Değerlendirilmesi". İnönü Üniversitesi Tıp Fakültesi Dergisi, 15 (4), 245-248.

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Examination Of Nursing and Midwifery Theses in Gynecologic and Obstetric Surgery: A Thesis Mappıng Example In Turkey

Jinekolojik ve Obstetrik Cerrahi Alanında Hemşirelik ve Ebelik Tezlerinin İncelenmesi: Türkiye'de Bir Tez Haritalama Örneği

Gökçen AYDIN AKBUĞA[1], Gizem ÇITAK[2], Serpil TOKER[3]

ABSTRACT

The aim of this study was to determine applied postgraduate thesis studies in the field of gynecologic and obstetric surgery in Turkey. This study is retrospective, cross-sectional, and descriptive.

The keywords "Gynecological Surgery", "Obstetric Surgery", "Cesarean section", "Hysterectomy", "Vaginoplasty", "Vaginal Repair", "Ovarian Cyst Surgery", "Uterine Prolapse", "Endometriosis", "Myemoctomy", which were obtained in line with the literature, were scanned by typing into the database of the National Thesis Center of the Council of Higher Education. In accordance with the inclusion criteria of the study, 23 theses in the field of midwifery and nursing, which did not have an oncologic procedure, the full text of which could be accessed and implemented between 1995 and 2023, were included in the evaluation.

In this study, the effects of counseling, health education, and support programs provided during the perioperative process within the scope of midwifery and nursing care protocol on sexual, psychosocial and physiological problems that may be encountered were examined. In addition, chewing gum, in-bed exercise, hot application, and warm water drinking were included in the management of postoperative gastrointestinal symptoms, while thermal blankets and heated irrigation fluids were used for the management of unwanted perioperative hypothermia. The number of multidisciplinary randomized controlled studies should be increased to emphasize the professional roles of midwives and nurses.

Keywords: Gynecology, Midwife, Nurse, Obstetrics, Thesis Mapping

ÖZ

Bu çalışmanın amacı, Türkiye'de jinekolojik ve obstetrik cerrahi alanında yapılan uygulamalı lisansüstü tez çalışmalarını belirlemektir. Çalışma retrospektif, kesitsel ve tanımlayıcı niteliktedir.

Literatür doğrultusunda elde edilen “Jinekolojik Cerrahi”, “Obstetrik Cerrahi”, “Sezaryen”, “Histerektomi”, “Vajinoplasti”, “Vajinal Onarım”, “Over Kist Cerrahisi”, “Uterin Prolapsus”, “Endometriozis”, “Myemoktomi” anahtar kelimeleri Yükseköğretim Kurulu Ulusal Tez Merkezi veri tabanına yazılarak taranmıştır. Çalışmanın dahil edilme kriterleri doğrultusunda, onkolojik bir işlem içermeyen, tam metnine ulaşılabilen, 1995-2023 yılları arasında uygulanmış ebelik ve hemşirelik alanında 23 tez değerlendirmeye alındı.

Tezlerde, ebelik ve hemşirelik bakım protokolü kapsamında perioperatif süreçte verilen danışmanlık, sağlık eğitimi ve destek programlarının karşılaşılabilecek cinsel, psikososyal ve fizyolojik sorunlar üzerindeki etkileri incelendi. Ayrıca postoperatif gastrointestinal semptomların yönetiminde sakız çiğneme, yatak içi egzersiz, sıcak uygulama, ılık su içme yer alırken, istenmeyen perioperatif hipotermi yönetimi için termal battaniye ve ısıtılmış irrigasyon sıvıları uygulanmıştır. Ebe ve hemşirelerin profesyonel rollerini vurgulamak için multidisipliner randomize kontrollü çalışmaların sayısının artırılması önerilebilir.

Anahtar Kelimeler: Ebe, Hemşire, Jinekoloji, Kadın Doğum, Tez Haritalama

[1] Doç. Dr. Gökçen AYDIN AKBUĞA, Cerrahi Hastalıklar Hemşireliği, Yozgat Bozok Üniversitesi, Sağlık Bilimleri Fakültesi, gokcen.aydin@bozok.edu.tr, 0000-0003-3839-7317
[2] Dr. Öğr. Üyesi, Gizem ÇITAK, Ebelik, Tokat Gaziosmanpaşa Üniversitesi, Sağlık Bilimleri Fakültesi, gzmakg@hotmail.com, 0000-0002-5484-2233
[2] Öğr. Gör., Serpil TOKER, Ebelik, Tokat Gaziosmanpaşa Üniversitesi, Sağlık Bilimleri Fakültesi, serpil.toker@gop.edu.tr, 0000-0001-6809-6342
İletişim / Corresponding Author: Gizem ÇITAK
e-posta/e-mail: gzmakg@hotmail.com
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INTRODUCTION

Surgical intervention is an essential treatment for gynecologic and obstetric diseases.[1] Surgical treatment is a complex process that affects the patient physiologically, psychologically, and socially. It may disrupt body image, lose patient autonomy, and experience pain and different complications related to surgery. [2-4] The health professional who is directly responsible for the perioperative care of the patient during this process is the nurse and midwife. Nurses and midwives are not only health care practitioners but also undertake tasks such as improving patients' quality of life, raising awareness, and adapting to the postoperative process by considering the process as a whole with their supportive, counselor, and educator roles. [5-7] Gynecologic and obstetric surgery, in particular, is closely related to a woman's reproductive capacity and sexual health, which directly affects her quality of life and social roles. In addition, during cesarean section, which is frequently performed in obstetric surgery, elements such as newborn care and breastfeeding are included in the perioperative care. In this context, gynecologic and obstetric surgery is a special field that requires a multidisciplinary team approach, and nursing/midwifery care has critical consequences for the individual, family and society. [8-10]

MATERIALS AND METHODS

The study is retrospective, cross-sectional and descriptive. In order to gather the data, firstly, a literature review was conducted on the interventions performed in the field of gynecological and obstetric surgery. [2-4, 11-13] As a result of the search, the keywords "Gynecological Surgery", "Obstetric Surgery", "Caesarean section", "Hysterectomy", "Vaginoplasty", "Vaginal Repair", "Ovarian Cyst Surgery" "Uterine Prolapse" "Endometriosis" "Myemoctomy" were obtained. The keywords were entered into the database of the National Thesis Center of the Council of Higher Education and the theses were scanned. In accordance with the inclusion criteria of the study, 23 theses in the field of midwifery and nursing, which did not have oncologic procedures, the full text of which could be accessed, and implemented between 1995 and 2023 were included in the evaluation. The data were obtained by evaluating the characteristics of the theses scanned with keywords. Data were collected using a six-question form developed by the researchers through literature review. [3,11-13] In the data collection form, there are items that examine the department, year, aim, method, surgical intervention performed, and the result of the thesis. Data were evaluated with descriptive statistics such as number and percentage. Since the study was conducted by accessing the theses from a public website, ethics committee approval was not obtained.

Limitations of the Study

The theses used in this research cover the period between 1995 and 2023. The year 2024 was not included in the research.

RESULTS AND DISCUSSION

It was determined that 86.9% of the theses included in the study were conducted in the department of nursing, 69.6% were between 2010 and 2023, and 56.6% were doctoral thesis on hysterectomy (Table 1).

Table 1. Characteristics of Applied Theses in Gynecological and Obstetrics Surgery (n:23)

Department	Number	%
Nursing	20	86.9
Midwifery	3	13.1
Year Interval		
1995-2009	7	30.4
2010-2023	16	69.6
The type of Thesis		
Master	10	43.4
PhD	13	56.6
Surgical Interventions Performed in the Study		
Gynecological surgery	3	13.1
Hysterectomy	13	56.6
Cesarean section	5	21.7
Genital Esthetics	1	4.3
Endometriosis	1	4.3

Theses were applied in the field of gynecological and obstetric surgery were examined; in some of the studies, the effects of counseling, health education, and support programs provided during the perioperative process within the scope of midwifery and nursing care protocol on sexual, psychosocial, and physiological problems that may be experienced, and the knowledge and behaviors of women toward solutions to these problems were evaluated (Table 2).

Furthermore, it is noteworthy that practices aimed at reducing the effects of complications related to surgical intervention that negatively affect patient comfort level and healing process during the postoperative period were observed in the studies. These practices include chewing gum, in-bed exercise, hot application, and warm water for the management of gastrointestinal symptoms, while thermal blankets and heated irrigation fluids are utilized for the management of unwanted perioperative hypothermia (Table 2).

Another element investigated in the present study is the effects of traditional and complementary medicine practices and non-pharmacological methods on postoperative pain, anxiety, and satisfaction. In this context, practices such as reiki and back massage, foot reflexology, music recitals, progressive relaxation exercises, and hand and foot massage were performed in women. In addition, in the applied analyses, parameters related not only to the woman but also to the newborn were evaluated. In particular, the effect of skin-to-skin contact on the sucking reflex of newborns after cesarean section was examined (Table 2).

Nursing and midwifery professionals have professional, independent duties, authorities, and responsibilities in our country, but they can work together or are preferred interchangeably in the face of employment problems because they include multidisciplinary care practices in maternal and child health. In particular, midwives and nurses in gynecology and obstetrics are responsible for health care services, such as reproductive health, follow-up, screening, education, and counseling related to reproductive health, postpartum care, and care for high-risk pregnant women. The duties and responsibilities of midwives in managing vaginal delivery and the birth process are strictly differentiated from those of nurses.[13] The fact that the majority of the studies conducted in the field of gynecological and obstetric surgery were performed by nurses may be attributed to the fact that midwives do not prefer to work in intersecting care practices with nurses. Furthermore, it is thought that the fact that applied theses are carried out by doctoral level students and the recent increase in the number of docto

Table 2. Summary of Applied Theses in Gynecological and Obstetric Surgery (n=23)

Authors and Year of Thesis	Aim	Method	Surgical Intervention	Conclusion
Coşkun, F. (2022) Master's Thesis.[7]	To evaluate a web-based counseling service on genital esthetic procedures.	The study included 36 participants. Data were collected using a socio-demographic and pre- and post-counseling questionnaire.	Genital Esthetic	The knowledge level score increased after the counseling service was provided.
Gül Bursa, A. (2022) Doctoral Thesis.[13]	To determine the effect of the Nursing Care Program for Endometriosis (NCPE) developed in line with the health promotion model on women's quality of life and healthy lifestyle behaviors.	A total of 46 women (23 in the intervention and 23 in the control groups) were included in the study. The Descriptive Information Form, Endometriosis Health Profile Questionnaire, Healthy Lifestyle Behaviors Scale II, and Visual Pain Scale were utilized.	Endometriosis	It was determined that NCPE implemented for women with endometriosis contributed positively to improving women's quality of life and developing healthy lifestyle behaviors.
Erkaya Leman, (2021) Master's Thesis.[1]	To examine the effect of skin-to-skin contact after cesarean delivery with spinal anesthesia on newborns' sucking competence and mothers' breastfeeding self-efficacy.	A total of 72 pregnant women and newborns, including 37 intervention and 35 control groups, were included in the study. Newborn and Parent Descriptive Characteristics Information Form, Breastfeeding Self-Efficacy Short Form Scale, and LATCH Breastfeeding Diagnostic Scale were utilized.	Cesarean section	Skin-to-skin contact was found to have an effect on the sucking competence of newborns and breastfeeding self-efficacy of mothers.
Çevik Akgöz, S. (2014) Doctoral Thesis.[14]	To determine the effects of in-bed exercises and gum chewing on post-cesarean bowel sounds, flatulence, and early discharge in women who underwent cesarean delivery.	A total of 120 women (40 women in the gum, exercise, and control groups) were included in the study. The Introduction and Evaluation Form, Gum Group Study Form, and Exercise Group Study Form were utilized.	Cesarean section	Although there was no statistically significant difference, the gum and exercise groups were discharged earlier than the control group, and the gum group was detected to pass gas earlier.
Aydın, H. (2019) Master's Thesis.[15]	To determine the effects of gum chewing and hot application on postoperative ileus after gynecological surgery.	There were 38 patients in the gum chewing group, 39 in the hot application group, and 37 in the control group. Gum chewing/hot application group data collection forms, control group data collection forms, and postoperative patient follow-up forms were utilized.	Gynecological surgeries	There were no significant differences between the three groups in terms of first bowel sounds, first oral intake, and first stool expulsion time.

Table 2. (Continued)

Tosunöz Köse, İ. (2022) Doctoral Thesis.[4]	To determine the effect of the use of thermal blankets in the preoperative and postoperative periods on vital signs, shivering level, chills, and temperature comfort perception.	Forty four patients, 22 with intervention and 22 controls, were included in the study. Patient Information Form, Patient Follow-up Form, Shivering Level Diagnosis Form, and Temperature Comfort Perception Scale were utilized.	Gynecological surgeries	It has proven that the thermal blanket is not superior to the cotton fleece blanket used in standard care for maintaining and raising body temperature, but it is effective in increasing the perception of comfort.
Akkurt, T. (2019) Master's Thesis.[16]	To evaluate the effect of warm water provided during laparoscopic hysterectomy on gastrointestinal function	Experimental group = 45; control group = 45. A total of 90 patients were included in the study. Descriptive Questionnaire and Patient Follow-up and Evaluation Forms were utilized.	Hysterectomy	It was observed that bowel movements and gas output started earlier in patients who consumed warm water.
Güler, H. (1995) Doctoral Thesis.[21]	To determine the effect of health education provided before and after hysterectomy on the problems and solutions that may be faced during the recovery process.	Experimental: 31 Control: 33 total of 64 people were included in the study. Information questionnaire, Practice questionnaire, Encountered problem form, and BECK depression scale were utilized.	Hysterectomy	It was determined that the training increased the participants' level of knowledge; the experimental group experienced fewer physical and psychosocial problems during the recovery period and resolved the problems in a proper manner.
Pak, Ö. (2009) Master's Thesis.[22]	To determine the effects of preoperative and postoperative nursing education on psychosexual problems in patients undergoing hysterectomy surgery.	In total, 60 patients (30 in the experimental group and 30 in the control group) were included in the study. The Information Form, Sexual History Form, and Female Sexual Function Scale were utilized.	Hysterectomy	No significant differences were detected between the groups.
Utli, H. (2018) Doctoral Thesis.[18]	To determine the effects of reiki and back massage on pain, vital signs, and analgesic use in women undergoing open abdominal hysterectomy.	A total of 102 people were included in the study, including 34 who received reiki, 34 who received back massage, and 34 who were in the control group. Descriptive questionnaire, numerical pain rating scale, and vital sign forms were utilized.	Hysterectomy	There were statistically significant differences in pain intensity and analgesic use between the Reiki and back massage groups.
Özdemir, F. (2008) Doctoral Thesis.[5]	To determine the effect of education and progressive relaxation exercises on anxiety levels after hysterectomy in women.	A total of 66 people were included in the study (34 in the experimental group and 32 in the control group). The Personal Introduction Form and State-Trait Anxiety Inventory were utilized.	Hysterectomy	Training and progressive relaxation exercises reduced women's anxiety levels.
Saylam, M. (2005) Doctoral Thesis.[23]	To determine the effects of preoperative and postoperative counseling on quality of life and sexual problems in patients undergoing hysterectomy.	A total of 60 people, 30 in the study: 30 in the experimental group, were included in the experimental group. Preoperative data, the SF-36 quality of life scale, and the sexual history form were utilized.	Hysterectomy	Counseling was found to be effective for improving quality of life but not for sexual problems.
Yılmaz, K. (2019) Doctoral Thesis.[24]	To evaluate the effectiveness of a nursing support program developed for women undergoing hysterectomy.	A total of 60 people, 30 in the study: 30 in the experimental group, were included in the experimental group. Sociodemographic Data Form, Female Sexual Function Index, Epidemiological Research and Center Depression Scale, and SF-12 Quality of Life Scale The Postoperative Data Form, Menopausal Symptoms Assessment Scale, and SF-12 Quality of Life Scale were utilized.	Hysterectomy	Education and telephone support provided to the patients within the scope of the nursing support program effectively reduced the severity of menopausal symptoms, prevented the deterioration of sexual functions, reduced depressive symptoms, and improved quality of life.
Ekiz Özer, E. (2022) Master's Thesis.[25]	To determine the effect of foot reflexology performed in women who underwent laparoscopic hysterectomy at the 2nd postoperative hour on the reduction of postoperative pain and distension and recovery	A total of 70 people, 35 in the study group and 35 in the control group, were included in the study. Patient Evaluation Form, Patient Follow-up Form, and Postoperative Recovery Index were utilized.	Hysterectomy	Foot reflexology reduces gastrointestinal system problems and analgesia use and has a positive effect on postoperative recovery.

Table 2. (Continued)

Öztürk, R. (2015) Doctoral Thesis.[6]	To determine the effect of reflexology on pain, anxiety, vital signs, fatigue, muscle tension, relaxation, and satisfaction after abdominal hysterectomy	In total, 63 women (32 intervention and 31 control) were included in the study. Patient Introduction Form, Postoperative Daily Follow-up Form, State and Trait Anxiety Inventory, and Visual Analog Scale were utilized to evaluate the severity of pain, fatigue, muscle tension, relaxation, and satisfaction levels.	Hysterectomy	It was observed that foot reflexology led to a decrease in pain, anxiety, fatigue, and muscle tension levels and an increase in relaxation and satisfaction levels in women who underwent abdominal hysterectomy, and this difference was statistically significant.
Çiçek, T. (2022) Doctoral Thesis.[20]	To determine the effect of listening to music on the reduction of pain and anxiety after total abdominal hysterectomy.	Experimental: 52; Control: 52. A total of 104 women were included in the study. Patient Information Form, STAI-I, STAI-II Numerical Pain Rating Scale, VAS Anxiety Scale, BRIEF Pain Inventory, and a Patient Follow-up Chart were utilized.	Hysterectomy	It was observed that the mean VAS pain and anxiety scores were lower at all measurement hours in the music recital group than in the control group.
Avcı, N. (2015) Doctoral Thesis.[10]	To determine the effect of reflexology on the reduction of postoperative pain and anxiety in patients undergoing total abdominal hysterectomy.	Experimental: 54; Control: 46; a total of 100 women were included in the study. Patient information forms, the STAI-1, numerical rating scale, VAS anxiety scale, BRIEF Pain Inventory, and Patient Monitoring Schedule were utilized.	Hysterectomy	The mean SDS pain, VAS score, and STAI anxiety scores were lower in the reflexology group than in the control group at all hours.
Özbağ, A. (2021) Master's Thesis.[17]	To investigate the effect of heated irrigation solution on postoperative hypothermia after total laparoscopic hysterectomy	Experimental: 32; Control: 32. A total of 64 women were included in the study. A patient introduction form and a data collection form, which included the vital signs of the patient during and after surgery, were utilized.	Hysterectomy	It was concluded that heated irrigation solution had an effect on postoperative hypothermia.
Tütüncü, B. (2009) Master's Thesis.[3]	To determine the effect of postoperative education provided to women with TAH+BSO on their sexual function according to the PLISSIT model.	A total of 70 women (35 in the Study Group and 35 in the Control group) were included in the study. Questionnaire form, Female Sexual Function Index, and training model package developed in line with the PLISSIT Model were utilized.	Hysterectomy	Sexual education delivered through the PLISSIT model was found to positively affect women's postoperative sexual function and coping with sexual problems.
Çelik Oyur, G. (2008) Doctoral Thesis.[2]	To determine the effect of progressive relaxation exercises, a non-pharmacological method, on preventing nausea and vomiting in patients undergoing patient-controlled analgesia after gynecological surgery	A total of 70 women (35 experimental and 35 control group) were included in the study. Patient Follow-up Form, Visual Pain Comparison Form, Visual Nausea and Vomiting Comparison Form, Self-Assessment Questionnaire STAI-I, Progressive Relaxation Exercises and Satisfaction with Medical Treatment Questionnaire, and Satisfaction with Patient-Controlled Analgesia Questionnaire were utilized.	Gynecological surgeries	There was a significant decrease in the frequency and severity of nausea, vomiting, emesis, pain, analgesic use, and postoperative anxiety scores in the experimental group compared with the control group.
Güney, D. (2021) Master's Thesis.[26]	To determine the effects of music and planned education on surgical fear, anxiety, and depression before cesarean section	A total of 120 people were included in the study, including the Music Group (N=40), the Planned Education Group (N=40) and the Control Group (n=40). The Personal Information Form, the Surgical Fear Scale, and the Hospital Anxiety and Depression Scale were utilized.	Cesarean section	Music and planned education were effective in reducing women's short-term and general surgical fears and planned education was effective in reducing their long-term surgical fears and anxiety levels prior to cesarean section.
Lazoğlu, M. (2022) Doctoral Thesis.[8]	To determine the effects of rotation and mobilization systems on breastfeeding success, pain, and comfort during cesarean section	146 women (74 experimental and 72 control) were included in the study. The Personal Information Form, LATCH Breastfeeding Identification and Assessment Scale, Visual Comparison Scale, Postpartum Comfort Scale, and Lactogenesis Symptoms Follow-up Form were utilized.	Cesarean section	The patient rotation and mobilization system had an impact on breastfeeding success, pain, postpartum comfort, and signs of lactogenesis
Değirmen, N. (2006) Master's Thesis.[9]	To determine the efficacy of hand-foot massage in reducing postoperative pain in patients undergoing cesarean section	A total of 75 women, including 25 in the control group, 25 in the hand-foot massage group, and 25 in the foot massage group, were included in the study. Patient Introduction Form, Postoperative Pain Diagnosis Form, NRS and VS Pain Scales, and Postoperative Pain Monitoring Form before and after massage were utilized.	Cesarean section	Hand and foot massage are effective methods for controlling postoperative pain, and massage of the hand-foot area reduces pain severity more than foot massage. It was determined that the pain-reduction effect increased as the duration of the massage was prolonged.

programs in the midwifery department may result in the high number of nursing theses.

Gynecological and obstetric surgery is a sensitive surgical procedure that directly affects the sexual and reproductive health of women, has a high risk of complications, and requires personal privacy and emotional empathy. Providing women with information and counseling about the surgical procedure to be performed and psychosocial support will effectively manage the symptoms they may experience after the surgical process and improve their quality of life. In the theses included in the study, it was concluded that through counseling, health education, and support programs, sexual, psychosocial, and physiological problems that may be experienced can be prevented, and quality of life can be improved. [8-10]

The most common problems that negatively affect patients' comfort level and recovery after abdominal surgery are symptoms related to the gastrointestinal tract. The symptoms experienced include particularly decreased gastrointestinal (GI) motility and abdominal distension, intestinal gas and fluid retention, flatulence, and delayed defecation after surgery. These symptoms are accompanied by pain, nausea, vomiting, anxiety, delayed oral intake, delayed wound healing, postoperative

Postoperative pain is a specific type of acute pain that is localized, develops due to the activation of neuroreceptor in response to surgical trauma, gradually decreases, and ends with tissue healing. Controlling pain is extremely important in terms of relieving the individual, increasing quality of life, and reducing complications. Nurses/midwives play an active role in the diagnosis of pain, planning and applying the necessary pharmacological and nonpharmacological pain methods, and monitoring and evaluating the results of treatment. Pharmacologic agents as well as non-pharmacologic methods are

mobilization, prolonged hospital stay, and decreased patient satisfaction. In this context, gastrointestinal symptoms can be managed using several clinical strategies implemented by nurses and midwives in collaboration with physicians. In the theses examined within the scope of the study, it was found that chewing gum, in-bed exercise, warm application, and warm water drinking in the management of gastrointestinal symptoms had an effect on early blastulation and defecation, early discharge, and a reduction in pain level. [14-16]

Unintentional perioperative hypothermia refers to a patient with a body temperature lower than the normal body temperature (usually between 36.5-37.5°C) during or after a surgical procedure. Hypothermia can occur due to several circumstances, such as failure to maintain body temperature during surgery or anesthesia, low temperatures in the operating room, poor heating systems, or other factors that impair the patient's thermoregulation. Unintentional perioperative hypothermia has various repercussions, including reduced tissue oxygen supply, discomfort, delayed wound healing, wound infection, chills, and bleeding. Previous studies have revealed that the use of thermal blankets and heated irrigation fluids with a multidisciplinary team approach increased comfort and prevented hypothermia. [4, 17]

used to manage pain. Although these methods increase the effectiveness of treatment when used in combination with pharmacological methods, when applied alone, they are effective for pain management by providing the body with natural morphine and endorphin release. In the theses evaluated within the scope of the study, the effects of applications such as back massage, foot reflexology, music recital, progressive relaxation exercises, hand-foot massage, and music recital on pain, anxiety, and satisfaction were examined, and significant results were found. [2, 5-10, 18-20]

CONCLUSION

As a result of the research, it was determined that the theses were mostly conducted in the department of nursing during the doctorate period and during hysterectomy.

In theses, it is noteworthy that the results of planned education and counseling services that increase the quality of midwifery and nursing care, have a positive effect on patient quality of life, anxiety, and satisfaction level, and possible sexual problems are examined on the basis of a scientific model or protocol.

One of the professional roles of nurses and midwives is to implement current interventions on symptom management and patient comfort by following evidence-based practices and incorporating evidence into care procedures. In this context, it is remarkable that practices that minimize the risk of postoperative gastrointestinal complications, increase patient comfort and breastfeeding efficiency, support postoperative pain management, and yield positive results are performed in theses.

In line with these results, increasing the number of multidisciplinary randomized controlled studies is recommended to emphasize the professional roles of midwives and nurses.

Our findings are expected to guide future studies in the field of gynecological and obstetric surgery in Turkey.

REFERENCES

1. Mürüvvet, E. (2021). Investigation of the Effect of Skin-to-Skin Contact in Cesarean Births on the Breastfeeding Competence of Newborns and Breastfeeding Self-Efficacy of Mothers. MSD Thesis. Kütahya University of Health Sciences Postgraduate Education Institute, Kütahya.
2. Çelik Oyur, G. (2008). Investigation of the Effect of Progressive Relaxation Methods on Preventing Nausea and Vomiting in Patients Undergoing Patient-Controlled Analgesia After Gynecological Surgeries. PhD Thesis. Ege University Institute of Health Sciences, Izmir.
3. Tütüncü, B. (2009). The Effect of Education Given to Women in Line with the PLISSIT Model on Their Sexuality After Hysterectomy. MSc Thesis. Marmara University Institute of Health Sciences, Istanbul.
4. Tosunöz Köse, İ. (2022). The Effect of the Use of Thermal Blanket in the Preoperative and Postoperative Period on the Life Findings, Shivering Level, Chills and Temperature Comfort Perception of the Patients. PhD Thesis. Çukurova University Institute of Health Sciences, Adana.
5. Özdemir, F. (2008). The Effect of Post-Hysterectomy Training and Progressive Relaxation Exercises on Anxiety Levels of Women. PhD Thesis. Atatürk University Institute of Health Sciences, Erzurum.
6. Öztürk, R. (2015). The Effect of Reflexology on Well-Being after Abdominal Hysterectomy. PhD Thesis. Ege University Institute of Health Sciences, Izmir.
7. Commun, F. (2022). Evaluation of Web-Based Counseling Service Provided about Genital Esthetic Applications. MSD Thesis. Ege University Institute of Health Sciences, Izmir.
8. Lazoğlu, M. (2022). The Effect of the Rotation and Movement System on Breastfeeding Success, Pain and Comfort in Cesarean Puerperium: A Randomized Controlled Study. PhD Thesis. Atatürk University Institute of Health Sciences, Erzurum.
9. Değirmen, N. (2016). The Effectiveness of Hand and Foot Massage in Pain Control After Cesarean Surgery. MSD Thesis. Eskişehir Osmangazi University Institute of Health Sciences, Eskisehir.
10. Avcı, N. (2015). The Effect of Reflexology in Reducing Pain and Anxiety After Total Abdominal Hysterectomy Surgery. PhD Thesis. Istanbul University Institute of Health Sciences, Istanbul.
11. Gün, İ., Bulutlar, E., ve Uluutku, B. (2022). "Gynecological Surgery and Principles". Istanbul: Akademisyen Kitabevi.
12. Kahramanoglu, I. (2022). 'Can Esthetic Surgery And Obstetric Procedures Be Combined?' Anestder Medical Journal, 1(1), 24-35. https://doi.org/10.5281/zenodo.744252910.5281/zenodo.7442528
13. Karaçam, Z. ve Eroğlu, K. (2019). 'Nursing And Midwifery: Similarities And Differences İn Duties, Authorities And Responsibilities'. Lokman Hekim Journal of Medical History and Folkloric Medicine, 9 (2), 211-227.
14. Bursa Gül, A. (2022). The Effect of the Applied Nursing Care Program on Healthy Lifestyle Behaviors and Quality of Life in Women with Endometriosis. PhD Thesis. Cerrahpaşa University Postgraduate Education Institute, Istanbul.
15. Çevik Akgöz, S. (2014). The Effect of In-Bed Exercises and Chewing Gum on Bowel Sounds, Flatulence and Early Discharge in the Early Period After Cesarean Sectio. PhD Thesis. Erciyes University Institute of Health Sciences, Kayseri.
16. Aydın, H. (2019). Comparison of the Effects of Chewing Gum and Hot Application on the Bowel Functions of Patients After Gynecological Surgery. MSD Thesis. Uludag University Institute of Health Sciences, Bursa.
17. Kurt, T. (2019). The Effect of Warm Water Given to Patients After Laparoscopic Hysterectomy Surgery on Gastrointestinal Functions. MSD Thesis. Marmara University Institute of Health Sciences, Istanbul.
18. Özbağ, A. (2021). The Effect of Heated Irrigation Fluid on Postoperative Hypothermia in Total Abdominal Hysterectomy Surgery. MSD Thesis. Okan University Postgraduate Education Institute, İstanbul.
19. Uti, H. (2018). The Effect of Reiki and Back Massage on Pain in Women Undergoing Abdominal Hysterectomy Surgery. PhD Thesis. İnönü University Institute of Health Sciences, Malatya.
20. Ekiz Özer, E. (2022). The Effect of Foot Reflexology Applied After Laparoscopic Hysterectomy on Reducing Analgesia Use and Healing. MSD Thesis. Marmara University Institute of Health Sciences, Institute of Health Sciences, İstanbul.

21. Çiçek, T. (2022). The Effect of Music on the Relief of Pain and Anxiety in Women Undergoing Total Abdominal Hysterectomy. PhD Thesis. Haliç University Postgraduate Education Institute, İstanbul.
22. Güler, H. (1995). The Effect of Nursing Intervention in Coping with Problems Arising Before and After Hysterectomy. PhD Thesis. Hacettepe University Institute of Health Sciences, Ankara.
23. Pak, Ö. (2009). The Effect of Education Given to Women Before and After Hysterectomy on Psychosexual Problems. MSc Thesis. Haliç University Postgraduate Education Institute, İstanbul.
24. Saylam, M. (2005). The Effect of Counseling Service Provided to Women with Hysterectomy Surgery Before and After Surgery on Quality of Life and Sexual Problems. PhD Thesis. Hacettepe University Institute of Health Sciences, Ankara.
25. Yılmaz, K. (2019). The Effectiveness of the Nursing Support Program Developed for Women Undergoing Hysterectomy. MSD Thesis. Istanbul University Institute of Health Sciences, İstanbul.
26. Ekiz Özer, E. (2022). The Effect of Foot Reflexology Applied After Laparoscopic Hysterectomy on Reducing Analgesia Use and Healing. MSD Thesis. Marmara University Institute of Health Sciences, Institute of Health Sciences, İstanbul.
27. Güney, D. (2021). The Effect of Music and Planned Education on Surgical Fear, Anxiety and Depression Before Cesarean Section. MSD Thesis. Sivas Cumhuriyet University Institute of Health Sciences, Sivas.

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Determination of Women's Belief Levels Regarding Human Papillomavirus Infection and Vaccination, and Their Vaccine Hesitancy

Kadınların Human Papilloma Virüsü Enfeksiyonu ve Aşısına İlişkin İnanç Düzeylerinin ve Aşı Olmaya Yönelik Tereddütlerinin Belirlenmesi

Nermin ALTUNBAŞ[1]

ABSTRACT

To determine women's belief levels regarding Human Papillomavirus (HPV) infection and vaccination, as well as their vaccine hesitancy. The study is a cross-sectional research design. The sample comprised 504 women who met the inclusion criteria. Data collection was conducted through face-to-face interviews between April 10, 2023, and July 10, 2023. The Introductory Information Form, the Health Belief Model Scale for Human Papillomavirus and its Vaccination, and the Vaccine Hesitancy Scale were utilized to gather data. The average age of the women in the study was 34.82 ± 7.857 years. Of the participants, 57.2% did not want to receive the HPV vaccine for themselves, 56% did not want it for their daughters, and 79.8% did not want it for their sons. None of the women had received the HPV vaccine, and 83.3% had not previously received information about HPV infection and vaccination. The mean scores for the Health Belief Model Scale regarding HPV infection and vaccination were as follows: benefit perception, 7.12 ± 2.330; susceptibility perception, 12.76 ± 2.499; seriousness perception, 4.39 ± 1.374; and obstacle perception, 9.95 ± 2.733. The average total score for the Vaccine Hesitancy Scale was 32.03 ± 7.598, with the lack of confidence score averaging 24.92 ± 6.924 and the risk score averaging 7.11 ± 1.416. The women's knowledge levels regarding HPV infection and vaccination are low. While their perception of susceptibility related to HPV infection and vaccination is high, their perceptions of the benefits, seriousness, and obstacles are low. The women exhibit moderate levels of hesitation and lack of confidence towards the HPV vaccine, and their perception of the vaccine's risk is high.

Keywords: Human Papillomavirus Viruses, Papillomavirus Vaccines, Vaccination Hesitancy

ÖZ

Kadınların Human Papillomavirus enfeksiyonu ve aşısına ilişkin inanç düzeylerini ve aşıya karşı tereddütlerini belirlemektir. Araştırma kesitsel araştırma türündedir. Araştırmanın örneklemini, dâhil edilme kriterlerini karşılayan 504 kadın oluşturmuştur. Veriler 10.04.2023-10.07.2023 tarihleri arasında yüz yüze görüşme yöntemiyle toplanmıştır. Verilerin toplanmasında Tanıtıcı Bilgi Formu, Human Papilloma Virüsü ve Aşılanmasına İlişkin Sağlık İnanç Modeli Ölçeği ve Aşı Tereddüdü Ölçeği kullanılmıştır.

Kadınların ortalama yaşı 34,82±7,857 olup %57,2'si kendisi için, %56'sı kız çocuğu için, %79,8'i oğlu için HPV aşısı yaptırmak istememektedir. Kadınların hiçbiri HPV aşısı yaptırmamıştır ve %83,3'ü daha önce HPV enfeksiyonu ve aşısı hakkında bilgi almamıştır. HPV enfeksiyonu ve aşı yarar algısı puan ortalaması 7,12±2,330, duyarlılık algısı puan ortalaması 12,76±2,499, ciddiyet algısı puan ortalaması 4,39±1,374 ve engel algısı puan ortalaması 9,95±2,733'tür. Aşı Tereddüdü Ölçeği toplam puan ortalaması 32,03±7,598, güven eksikliği puan ortalaması 24,92±6,924, risk puan ortalaması ise 7,11±1,416'dır. Kadınların HPV enfeksiyonu ve aşısına ilişkin bilgi düzeyleri düşük, HPV enfeksiyonu ve aşısına ilişkin sağlık inançları duyarlılık algısı yüksek, yarar, ciddiyet ve engel algıları ise düşüktür. Kadınların HPV aşısına ilişkin tereddütleri ve güvensizlikleri orta düzeyde, aşının riskleri olduğu düşüncesi ise yüksek düzeydedir.

Anahtar Kelimeler: Aşı Tereddüdü, Human Papillomavirus, Papillomavirus Aşısı

[1]Dr. Öğretim Üyesi Nermin ALTUNBAŞ,
Hemşirelik, Sivas Cumhuriyet Üniversitesi,
ORCID: 0000-0003-1190-3523
İletişim/Corresponding Author:
Nermin ALTUNBAŞ
e-posta/e-mail: nerminaltunbas@cumhuriyet.edu.tr

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INTRODUCTION

Cervical cancer is the fourth most common type of cancer among women in the worldwide.[1] Approximately 90% of cervical cancer cases occur in low- and middle-income countries. The primary reason for this is that, although cervical cancer is preventable, women in these countries often lack access to vaccination and screening programs. The main cause of cervical cancer is Human Papillomavirus (HPV), which is the most common sexually transmitted infection globally among sexually active men and women.[2,3]

HPV infections cause significant morbidity and mortality by leading to the development of warts and various cancers, including anal, vaginal, vulvar, penile, oropharyngeal, and particularly cervical cancer.[4] Although the high-risk HPV types are 6, 11, 16, and 18, the HPV vaccine can be administered between the ages of nine and 45.[3] In high-income countries with current HPV vaccines and screening programs, cervical cancer incidence and mortality have halved over the last 30 years.[5] Prophylactic HPV vaccines currently administered are reported to be over 90% effective in preventing anogenital HPV infections and precancerous lesions in randomized clinical trials and significantly reduce the risk of invasive cervical cancer. In particular, vaccinating women at an early age further enhances this risk reduction.[6-8]

The HPV vaccine is not included in the mandatory vaccination schedule in many countries and is often administered optionally and for a fee. This indicates that HPV vaccination is perfomed on a voluntary basis. Particularly, women who lack sufficient knowledge about HPV infection may not develop adequate awareness of the disease and may fail to recognize the importance of the vaccine, which is crucial for protecting against the disease.[9] The inclusion of 'Vaccine Hesitancy' in the World Health Organization's (WHO) list of '10 Threats to Global Health in 2019' highlights the significance of the prevalence of anti-vaccine views.[10] Since 2010, anti-vaccine views have become increasingly widespread in Turkey, leading to a rise in the number of families who refuse vaccination. Studies on vaccine rejection report that the most important reasons are a lack of knowledge, distrust in vaccines, and concerns about side effects.[11-13]

Unlike other types of cancer, cervical cancer is highly preventable through screening and vaccination, yet it remains a global and serious health problem with a high mortality rate, particularly among women. Its incidence is decreasing only in developed countries where screening and vaccination are accessible. Prevention is the most effective strategy to achieve significant reductions in the mortality and morbidity rates associated with cervical cancer.

The aim of this study; is to determine women's belief levels regarding Human Papillomavirus infection (HPV) and its vaccine and their hesitation towards the vaccine.

MATERIALS AND METHODS

Type of study

The study is a cross-sectional research type.

Population and sample of the study

The study population consisted of women who visited the outpatient clinics of a public hospital in Anatolia for any health issue. The number of women applying to the hospital in 2022 is 622,689. Accordingly, in the formula for determining the number of samples in groups whose universe is known ($n=N.t^2.p.q/d^2.(N-1)+t^2.p.q$); t=1.96; p=0.50, q=0.50; d=0.05, the number of women to be included in the sample group was determined to be at least 384. 504 women who met the inclusion criteria and voluntarily accepted to

participate in the study participated in this study.

Inclusion criteria in the study;

• Be woman

• Being literate

• Being between the ages of 18-45

• Having children

Data collection

The data for the study were collected through face-to-face interviews conducted between April 10, 2023, and July 10, 2023. Women were informed about the study and their informed consent was obtained. The forms were administered to women individually, with attention to the principles of personal information protection.

Data collection tools

Data were collected with the "Introductory Information Form", "Health Belief Model Scale for Human Papillomavirus and its Vaccination" and "Scale of Vaccine Hesitancy".

“Introductory Information Form” was prepared by the researchers. In the first part of the form, there are six questions, two of which are open-ended, containing introductory information such as "age, education level, profession, working status, economic situation, gender of children"; In the second part, "Have you had an HPV test before?", Have you received information/training about HPV and the HPV vaccine before?, Would you consider giving your daughter the HPV vaccine? Nine open-ended questions include information about the Human Papillomavirus, its test, and vaccine, such as.[3, 7, 8, 14]

“Health Belief Model Scale for Human Papillomavirus and its Vaccination” was developed and adapted to Turkish to measure health beliefs about HPV vaccination. The scale consists of four subscales and 14 items: benefit (items 1-3), obstacle (items 10-14), sensitivity (items 4-5), and seriousness (items 6-9). The scale items are four-point Likert type. It is scored between “(1) not at all” and “(4) very much”. There are no reverse items or cutoff points in the scale. The score that can be obtained from the scale is between 3-12 points for the perception of benefit, between 5-20 points for the perception of an obstacle, between 2-8 points for sensitivity, and between 4-16 points for the perception of seriousness. As subscale scores increase, perceptions also increase. Cronbach alpha values of the subscales vary between 0.71-0.78.[15] The Cronbach alpha values of the subscales of this study are 0.88, 0.71, 0.72, 0.73, respectively.

“Vaccine Hesitancy Scale” was developed to measure vaccine hesitancy and was adapted to Turkish. The scale consists of two subscales and nine items: lack of trust (items 1,2,3,4,5,6,7) and risks (items 8,9). The scale is in a five-point Likert style and consists of options ranging from (1) strongly disagree to (5) strongly agree. The ingredients cover all vaccines and can be applied to the general population. The score obtained from the scale and its sub-dimensions is obtained by summing the scores obtained from the relevant items, and an increase in the score indicates that the hesitancy towards vaccines is decreasing. The lowest score that can be obtained from the scale is nine and the highest score is 45. The scale does not have a cut-off point or inverse item. The internal consistency coefficients obtained for the dimensions of the scale are 0.89 for lack of trust, 0.89 for risks, and 0.87 for the entire scale. The coefficients for additional dimensions are 0.63 and 0.87.[16] The total Cronbach alpha values of the subscales and the scale of this study are 0.94, respectively; are 0.98 and 0.90.

Data analysis

The data obtained from the study were evaluated on the computer using the SPSS 27.0 program. Descriptive statistical methods (frequency, percentage, mean, and standard deviation) were used to evaluate the data. Since parametric test assumptions were met, independent sample t test, analysis of variance for more than two independent groups, correlation analysis were applied to determine the difference between the averages of two independent groups, and the error level was taken as 0.05.

Ethical considerations

To conduct the study, ethics committee approval was obtained from the Non-Interventional Clinical Research Ethics Committee of a university (Date: February 22, 2023; Decision No: 2023-02/11). Written permission to conduct the study was obtained from the hospital (Date: March 10, 2023; Reference Number: E-91742806-799-211090697). Before starting the study, women were informed about the study and their consent was obtained, and Helsinki principles were followed at every stage of the research. Permission was obtained from the authors for the scales used in the study.

Limitations of the study

One limitation of this study is that it exclusively involved women with children and did not include men. As a result, the findings may not be applicable to men or to women without children. Despite this limitation, the study's results are considered reliable and generalizable due to the adequate sample size.

RESULTS AND DISCUSSION

Of the women participating in the study, 47% were between 38 and 44 years old, with an average age of 34.82±7.857 years. Additionally, 32.9% of the women were primary school graduates, 74.8% were unemployed, 61.9% described their economic status as middle-level, and 55.7% had both daughters and sons (Table 1).

Table 1. Descriptive Characteristics of Women (n=504)

Descriptive characteristics	n (%)
Age	x̄±SD (min-max) 34.82±7.857 (19-44)
18-24 age	99 (19.7)
25-30 age	10 (2.0)
31-37 age	158 (31.3)
38-44 age	237 (47.0)
Education level	
Primary school	166 (32.9)
Middle school	149 (29.6)
High school	87 (17.3)
Junior college	26 (5.2)
University	76 (15.1)
Working status	
Yes	127 (25.2)
No	377 (74.8)
Economical situation	
Bad	32 (6.3)
Middle	312 (61.9)
Good	160 (31.7)
Child's gender	
Only female	137 (27.2)
Only male	86 (17.1)
Both female and male	281 (55.7)

†n: number, %: percentage, x̄: mean, SD: standard deviation, min-max: minimum-maximum value

All of the women participating in the study stated that they had not received the HPV vaccine. In addition, 66.1% of women reported that they had not undergone an HPV test, 16.1% had a family history of cancer, 83.3% had not received information about HPV infection and the vaccine previously, and 50.4% believed that cervical cancer was preventable. Furthermore, 57.2% indicated that they did not want to receive the HPV vaccine themselves, 56% did not want their daughter to receive the HPV vaccine, and 79.8% did not want their son to receive the HPV vaccine (Table 2).

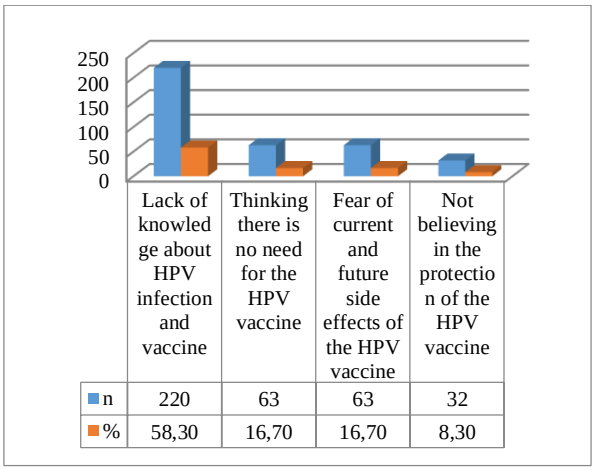
Table 2. Characteristics of Women Regarding HPV (n=504)

Characteristics of HPV	n (%)
HPV test status	
Yes	171 (33.9)
No	333 (66.1)
HPV vaccination status	
Yes	0 (0.0)
No	504 (100.0)
Having a family history of cancer	
Yes	81 (16.1)
No	423 (83.9)
Status of obtaining information about HPV infection and vaccine	
Yes	84 (16.7)
No	420 (83.3)
Is cervical cancer a preventable disease?	
Yes	250 (49.6)
No	0 (0.0)
I don't know	254 (50.4)
The situation of wanting to get the HPV vaccine yourself	
Yes	50 (9.9)
No	288 (57.2)
I'm undecided	166 (32.9)
Wanting to have your daughter vaccinated against HPV	
Yes	82 (16.2)
No	282 (56.0)
I'm undecided	140 (27.8)
Wanting to have your son vaccinated against HPV	
Yes	0 (0.0)
No	402 (79.8)
I'm undecided	102 (20.2)

**n: number, %: percentage*

Among the women participating in the study, the primary reason for refusing HPV vaccination for themselves and their children was a lack of knowledge about HPV infection and vaccine (58.3%). Other reasons included believing that the HPV vaccine is unnecessary (16.7%), fearing current and future side effects of the vaccine (16.7%), and not believing in the effectiveness of the HPV vaccine (8.3%) (Graphic1).

Graphic 1. Reasons for Women Refusing to Have HPV Vaccination for Themselves and Their Children (n=378)



**378 out of 504 women answered this question. †n: number, %: percentage*

Among the subscales of the Health Belief Model Scale for Human Papillomavirus and its Vaccination, the average benefit perception score of the women participating in the study was 7.12±2.330, the average sensitivity perception score was 12.76±2.499, the average seriousness perception score was 4.39±1.374, and the average obstacle perception score was 9.95±2.733 (Table 3).

The mean score of the women participating in the study on the Vaccine Hesitancy Scale was 32.03±7.598. The mean score for lack of confidence in the subscales was 24.92±6.924, and the mean score for perceived risks was 7.11±1.416 (Table 3).

Table 3. Health Belief Model Scale for Human Papillomavirus and Its Vaccination and Vaccine Hesitancy Scale and Subscales Score Averages (N=504)

Subdimensions	x̄±SD	min-max
Perception of benefit	7.12±2.330	3-12
Perception of sensitivity	12.76±2.499	8-17
Perception of seriousness	4.39±1.374	2-8
Perception of obstacle	9.95±2.733	5-16
Lack of confidence	24.92±6.924	13-34
Risks	7.11±1.416	5-10
Total	32.03±7.598	18-42

**x̄: mean, SD: standard deviation, min-max: minimum-maximum value*

The difference between the benefit perception mean score and the Vaccine Hesitancy Scale mean score, as measured by the sub-dimensions of the Health Belief Model Scale on HPV Infection and Vaccination among the women participating in the study, was positive and moderate (r=0.417; p<0.001). There was also a positive, low-level relationship (r=0.285; p<0.001) between the sensitivity perception mean score and the Vaccine Hesitancy Scale mean score, and a positive, moderate relationship (r=0.302; p<0.001) between the seriousness perception mean score and the Vaccine Hesitancy Scale mean score (Table 4).

Table 4. The Relationship between the Sub-Dimensions of the Health Belief Model Scale For Human Papillomavirus and Its Vaccination and the Mean Score of the Vaccine Hesitancy Scale (N=504)

Scales		Benefit	Sensitivity	Seriousness	Obstacle	Vaccine hesitancy
Benefit	R	-	0.590	0.302	0.176	0.417
	p	-	**<.001**	**<.001**	**<.001**	**<.001**
Sensitivity	R	0.590	-	0.782	0.315	0.285
	P	**<.001**	-	**<.001**	**<.001**	**<.001**
Seriousness	R	0.533	0.782	-	0.510	0.302
	P	**<.001**	**<.001**	-	**<.001**	**<.001**
Obstacle	R	0.176	0.315	0.510	-	-0.008
	P	**<.001**	**<.001**	**<.001**	-	0.866
Vaccine hesitancy	R	0.417	0.285	0.302	-0.008	-
	P	**<.001**	**<.001**	**<.001**	0.866	-

**r: pearson correlation coefficient, p: statistical significance*

In the study conducted to determine women's belief levels regarding Human Papillomavirus infection and vaccine, as well as their hesitation towards the vaccine, the average age of the participants was 34.82±7.857. Other studies have reported that the average age ranges from 22 to 55 years and varies depending on the sample groups, such as mothers, university students, and healthcare workers.[7, 17-20]

In this study, a higher proportion of women were found to be primary school graduates and unemployed. It is hypothesized that these factors may negatively impact women's knowledge about HPV infection and HPV vaccine. Both education level and employment status are important factors that influence individuals' knowledge and cultural status.[19, 21, 22] Both in this study and in other research, it was found that women were reluctant to receive the HPV vaccine and undergo HPV testing, often due to insufficient information. The majority also expressed reluctance for their children to receive the HPV vaccine.[18, 19]

The first reason why women participating in the research refuse to have HPV vaccination for themselves and their children is the lack of knowledge about HPV infection and vaccine, with 58.3%. Al Alavi et al. (2023) reported that women and men do not find the HPV vaccine safe (62%), believe that it has side effects (71.5%), and do not believe in its protection (84.6%).[23] In other studies, the level of knowledge is also quite low. Although nursing students and healthcare professionals have a higher level of knowledge about HPV infection and the vaccine compared to women in the general population, the number of individuals who have vaccinated themselves or their children with the HPV vaccine remains low.[7, 20, 24] These findings indicate that varying results occur across different segments of society due to a lack of information. Although the HPV vaccine is included in the national vaccination schedules and administered free of charge in some countries, vaccination rates are not reaching the desired levels.[25, 26]

The women participating in the study had low benefit perception scores (7.12±2.330), seriousness perception scores (4.39±1.374), and obstacle perception scores (9.95±2.733) on the Health Belief Model subscales regarding HPV infection and vaccination, and their susceptibility perception scores (12.76±2.499) were low to moderate. Additionally, the low education level of these women indicates that their perceptions of the benefits, seriousness, and obstacles related to HPV infection and vaccination are inadequate. Insufficient beliefs and attitudes of mothers towards HPV infection and vaccination also contribute to lower vaccination rates among their children.[27] In a study examining the health belief levels of health sciences students regarding the HPV vaccine, it was found that the seriousness perception score was higher, while the obstacle perception score was lower.[14] It has also been reported that self-efficacy and subjective norms contribute to an increase in HPV vaccination behavior among university students.[28] Another study emphasized that younger and more knowledgeable women held more positive opinions about the HPV vaccine.[29] The results of these studies indicate that women with higher education levels and younger ages have greater perceptions of the seriousness and barriers related to HPV infection and vaccination. Therefore, it is important to enhance women's awareness about HPV infection and vaccines, increase their knowledge, and improve their understanding. Çitak Bilgin et al. (2022) reported that education provided to mothers about HPV infection and the vaccine significantly improved their perceptions of benefits, severity, and susceptibility related to health beliefs regarding HPV infection and vaccination, compared to the control group.[30]

It was determined that the women participating in the study experienced moderate hesitation (32.03±7.598) and lack of confidence (24.92±6.924) regarding the HPV vaccine, while their concerns about the vaccine being risky were high (7.11±1.416). Despite scientific evidence supporting the safety and benefits of vaccines, vaccine rejection is increasing. Reasons for vaccine

rejection include concerns about vaccine ingredients, experiences with side effects, mistrust in vaccine administration, religious beliefs, the pharmaceutical industry, media influence, and vested interests.[31-33] However, no studies describing hesitancy towards the HPV vaccine have been identified in the literature.

As the benefit perception, sensitivity, and seriousness of the women participating in the study regarding HPV infection and vaccination increase, vaccine rejection decreases. These results indicate that as women's knowledge about both HPV infection and the benefits of the vaccine improves, they become more sensitive to the disease and the vaccine. Consequently, their serious beliefs and perceptions about cervical cancer, its causative agent, and preventive measures are likely to strengthen. Shato et al. (2023) state that parents who are hesitant about the HPV vaccine are less likely to vaccinate their children.[34] Children's age, gender, and parents' vaccine hesitancy were found to be significantly associated with the likelihood of receiving the HPV vaccine. There are only a limited number of studies in the literature examining the relationship between beliefs about HPV infection and the vaccine and vaccine rejection. Therefore, the results of this study are considered important for identifying gaps in scientific knowledge and literature.

CONCLUSION AND RECOMMENDATION

According to the findings of this study, women's knowledge about HPV infection and the vaccine is quite low, and a high number of women are reluctant to receive the HPV vaccine for themselves, their daughters, or their sons. The study found that while women's perception of susceptibility to HPV infection and vaccination was high, their perceptions of benefits, seriousness, and barriers were low. It was concluded that women's hesitation and lack of confidence in the HPV vaccine were at a moderate level, and their perception of the vaccine's risks was high. In line with these results, efforts should be made to increase women's knowledge about HPV infection and the vaccine, and to raise awareness about the necessity of vaccination and its protection against cervical cancer. Additionally, the HPV vaccine should be made available to the public free of charge through national policies, and health-protective behaviors should be promoted through public service announcements about the HPV vaccine, infection, and cervical cancer. To generalize the study results to a broader population, it is recommended to conduct studies including samples of men, women, and individuals without children.

REFERENCES

1. Global Cancer Observatory (GLOBOCAN). (2020). "Global Cancer Observatory". Accessed adress: https://gco.iarc.fr/en (Accessed date: September 14, 2023).
2. Levinson, W. (2014). "Review of Medical Microbiology and Immunology". USA: LANGE.
3. Agabekova, B, Özler, N.B. ve Luboteni, R. (2021). "HPV İlişkili Kanserlere Karşı Mücadelede HPV Aşıları Hakkında Derleme". Türkiye Sağlık Okuryazarlığı Dergisi, 2 (2), 89-98. https://doi.org/10.54247/SOYD.2021.29.
4. Castle, P.E. and Maza, M. (2016). "Prophylactic HPV Vaccination: Past, Present, and Future". Epidemiology & Infection, 144 (3), 449-468.
5. Cohen, P.A, Jhingran, A, Oaknin, A. and Denny, L. (2019). "Cervical Cancer". Lancet, 12; 393 (10167), 169-182. http://doi.org/10.1016/S0140-6736(18)32470-X.
6. Chaturvedi, A.K, Graubard, B.I, Broutian, T, Pickard, R.K.L, Tong, Z.Y, Xiao, W, Kahle, L. and Gillison, M.L. (2018). "Effect of Prophylactic Human Papillomavirus (HPV) Vaccination on Oral HPV Infections Among Young Adults in the United States". Journal of Clinical Oncology, 36 (3), 262-267. https://doi.org/10.1200/JCO.2017.75.0141.
7. Güder, S. ve Güder, H. (2022). "Sağlık Personelinin HPV Aşısı ile İlgili Bilgi ve İnanç Düzeyinin Araştırılması: Kesitsel Bir Araştırma". Türkiye Klinikleri, Dermatoloji Dergisi, 32 (1), 37-46. https://doi.org/10.5336/dermato.2021-86521.
8. Lei, J, Ploner, A, Elfström, K.M, Wang, J, Roth, A, Fang, F, Sundström, K, Dillner, J. and Sparén, P. (2020). "HPV Vaccination and the Risk of Invasive Cervical Cancer". The New England Journal of Medicine, 383 (14), 1340-1348. http://doi.org/10.1056/NEJMoa1917338.
9. Yakşi, N. and Topaktaş, B. (2023). "Knowledge Beliefs and Barriers of Healthcare Workers About Human Papilloma Virus (HPV) and HPV Vaccine". Acıbadem University Health Sciences Journal, 14 (2), 183-189. https://doi.org/10.31067/acusaglik.1240702.
10. World Health Organisation (WHO). (2019). "Ten Threats to Global Health in 2019". Accessed adress: https://www.who.int/news-room/spotlight/ten-threats-to-global-health-in-2019 (Accessed date: September 14, 2023).
11. Gür, E. (2019). "Vaccine Hesitancy-Vaccine Refusal". Turkish Archives of Pediatrics, 54 (1), 1-2. http://doi.org/10.14744/TurkPediatriArs.2019.7999.

12. Hasar, M, Özer, Z.Y. ve Bozdemir, N. (2021). "Aşı Reddi Nedenleri ve Aşılar Hakkındaki Görüşler". Cukurova Medical Journal, 46 (1), 166-176. http://doi.org/10.17826/cumj.790733.

13. Yakşi, N. (2020). "Aile Sağlığı Merkezi Çalışanlarının Aşı Reddi Değişiminin ve Oranlarının Değerlendirilmesi". Türk Halk Sağlığı Dergisi, 18 (3), 143-154. http://doi.org/10.20518/tjph.692226.

14. Yağız Altıntaş, R, Kilci Erciyas, Ş. ve Ertem, G. (2022). "Sağlık Bilimleri Fakültesi Öğrencilerinin Serviks Kanseri ile Human Papilloma Virüs Enfeksiyonu Aşılamasına İlişkin Sağlık İnanç Düzeylerinin Belirlenmesi". Dokuz Eylül Üniversitesi Hemşirelik Fakültesi Elektronik Dergisi, 15 (1), 40-49. https://doi.org/10.46483/deuhfed.792977.

15. Guvenc, G, Seven, M. and Akyuz, A. (2016). "Health Belief Model Scale for Human Papilloma Virus and its Vaccination: Adaptation and Psychometric Testing". Journal of Pediatric and Adolescent Gynecology, 29 (3), 252-258. http://dx.doi.org/ 10.1016/j.jpag.2015.09.007.

16. Yılmaz, N, Öke Karakaya, P. ve Sönmez S. (2021). "Aşı Tereddüdü Ölçeğinin Türkçe Geçerlik ve Güvenirliği". İşletme Bilimi Dergisi, 9 (3), 499-517. https://doi.org/10.22139/jobs.

17. Abi Jaoude, J, Khair, D, Dagher, H, Saad, H, Cherfan, P, Kaafarani, M.A, Jamaluddine, Z. and Ghattas, H. (2018). "Factors Associated with Human Papilloma Virus (HPV) Vaccine Recommendation by Physicians in Lebanon, A Cross-Sectional Study". Vaccine, 36 (49), 2762-2767. https://doi.org/10.1016/j.vaccine.2018.10.065.

18. Altınel Açoğlu, E, Oğuz, M.M. ve Şenel, S. (2019). "Ebeveynlerin HPV Aşısı Hakkındaki Bilgi Düzeyleri ve Yaklaşımları". Türkiye Çocuk Hastalıkları Dergisi, 2, 78-82. http://doi.org/10.12956/tchd.515713.

19. Kürtüncü, M, Arslan, N, Alkan, I. ve Bahadır, Ö. (2018). "10-15 Yaş Arası Kız Çocuğu Olan Annelerin Rahim Ağzı Kanseri ve HPV Aşısı Konusunda Bilgi, Tutum ve Davranışları". Journal of Human Sciences, 15 (2), 1072-1085. http://doi.org/10.14687/jhs.v15i2.5097.

20. Özdemir, K, Şahin, S. ve Ünsal, A. (2021). "Üniversitede Öğrenim Gören Kız Öğrencilerin HPV Bilgi Düzeyinin İncelenmesi (Sakarya, Türkiye)". Androloji Bülteni, 23, 97-104. http://doi.org/10.24898/tandro.2021.24540.

21. Btoush, R, Brown, D.R, Tsui, J, Toler, L. and Bucalo, J. (2019). "Knowledge and Attitudes Toward Human Papillomavirus Vaccination Among Latina Mothers of South American and Caribbean Descent in the Eastern US". Health Equity, 3 (1), 219-230. https://doi.org/10.1089/heq.2018.0058.

22. Grandahl, M, Paek, S.C, Grisurapong, S, Sherer, P, Tydén, T. and Lundberg, P. (2018). "Parents' Knowledge, Beliefs, and Acceptance of the HPV Vaccination in Relation to their Socio-Demographics and Religious Beliefs: A Cross-Sectional Study in Thailand". PLoS One, 13 (2), e0193054. https://doi.org/10.1371/journal.pone.0193054.

23. Al Alawi, S, Al Zaabi, O, Heffernan, M.E, Arulappan, J, Al Hasani, N, Al Baluchi, M, Al Mamari, A. and Al Saadi, A. (2023). "Knowledge, Attitudes and Acceptance Toward Human Papilloma Virus (HPV) Vaccination: Perspectives of Muslim Women and Men". Vaccine, 41 (13), 2224-2233. https://doi.org/10.1016/j.vaccine.2023.02.063.

24. Başli, M, Aksu, H. ve Toptaş, B. (2019). "Bir Üniversitede Öğrenim Gören Sağlık Yüksekokulu Öğrencilerinin Human Papilloma Virüs ve HPV Aşısı ile İlgili Bilgi ve Görüşleri". Ankara Sağlık Bilimleri Dergisi, 1, 1-17.

25. Donadiki, E.M, Jimenez Garcia, R, Hernandez Barrera, V, Carrasco Garrido, P, López de Andrés, A. and Velonakis, E.G. (2012). "Human Papillomavirus Vaccination Coverage Among Greek Higher Education Female Students and Predictors of Vaccine Uptake". Vaccine, 30 (49), 6967-6970. https://doi.org/10.1016/j.vaccine.2012.09.028.

26. Tiro, J.A, Tsui, J, Bauer, H.M, Yamada, E, Kobrin, S. and Breen, N. (2012). "Human Papillomavirus Vaccine Use Among Adolescent Girls and Young Adult Women: An Analysis of the 2007 California Health Interview Survey". Journal of Women's Health, 21 (6), 656-665. https://doi.org/10.1089/jwh.2011.3284.

27. Rickert, V.I, Rehm, S.J, Aalsma, M.C. and Zimet, G.D. (2015). "The Role of Parental Attitudes and Provider Discussions in Uptake of Adolescent Vaccines". Vaccine, 33 (5), 642-647. https://doi.org/10.1016/j.vaccine.2014.12.016.

28. Kim, S.Y, Seo, J.W. and Ryu, E. (2020). "Korean College Students' Attitudes and Health Behaviour Regarding Human Papillomavirus Vaccination". Collegian, 28 (1), 57-62. https://doi.org/10.1016/j.colegn.2020.04.009.

29. Tung, W.C, Lu, M, Qui, X. and Ervin, S. (2019). "Human Papillomavirus Knowledge, Attitudes, and Vaccination Among Chinese College Students in the United States". Vaccine, 7, 3199-3204. https://doi.org/10.1016/j.vaccine.2019.04.084.

30. Çitak Bilgin, N, Coşkuner Potur, D. and Yildirim, Y. (2022). "Does Group Education Affect Mothers' Knowledge and Attitudes Towards the HPV Vaccine?". Health Care for Women International, 43 (6), 686-704. http://doi.org/10.1080/07399332.2021.1982945.

31. Çıtak, G. ve Duran Aksoy, Ö. (2020). "Aşılamada Önemli Bir Engel: Aşı Reddi". ERÜ Sağlık Bilimleri Fakültesi Dergisi, 7 (2), 15-20.

32. Helps, C, Leask, J, Barclay, L. and Carter, S. (2019). "Understanding Non-Vaccinating Parents' Views to Inform and Improve Clinical Encounters: A Qualitative Study in an Australian Community". BMJ Open, 9 (5), 1-13. https://dx.doi.org/10.1136/bmjopen-2018-026299.

33. Yüksel, G.H. ve Topuzoğlu, A. (2019). "Aşı Redlerinin Artması ve Aşı Karşıtlığını Etkileyen Faktörler". ESTÜDAM Halk Sağlığı Dergisi, 4, 244-258. https://doi.org/10.35232/estudamhsd.525983.

34. Shato, T, Humble, S, Anandarajah, A, Barnette, A, Brandt, H.M, Garbutt, J, Klesges, L, Thompson, V.S. and Silver, M.I. (2023). "Influences of Sociodemographic Characteristics and Parental HPV Vaccination Hesitancy on HPV Vaccination Coverage in Five US States". Vaccine, 41 (25), 3772-3781. https://doi.org/10.1016/j.vaccine.2023.04.082.

GÜSBD 2024; 13(3): 1149 - 1157 **Gümüşhane Üniversitesi Sağlık Bilimleri Dergisi** **Araştırma Makalesi**
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The Importance of Motivational Interviewing Technique in Providing Breastfeeding Motivation in the Postpartum Period

Postpartum Dönemde Emzirme Motivasyonunun Sağlanmasında Motivasyonel Görüşme Tekniğinin Önemi

Özge PALANCI AY[1], Songül AKTAŞ[2]

ABSTRACT

The breastfeeding process is an important period in terms of mother and infant health. In this process, it is important for the mother to start and maintain breastfeeding as soon as possible after birth in order to benefit from breast milk at the maximum level. The effects of physiological, psychological, social and motivational factors are important in initiating, maintaining and sustaining breastfeeding. If the mother experiences any breastfeeding problem during the breastfeeding process, her breastfeeding motivation may decrease. In recent studies, it is seen that breastfeeding trainings are carried out with individual, encouraging, self-efficacy and motivational techniques. Motivational interviewing is one of these current techniques. Motivational interviewing is a client-centered evidence-based practice that enables the individual to discover and resolve contrasting / conflicting emotions and gain intrinsic motivation for change. In breastfeeding education, motivational interviewing technique is used by nurses and midwives for supportive purposes such as determining mothers' attitudes towards breastfeeding, increasing their compliance with the breastfeeding process, eliminating their lack of knowledge, reducing their concerns about breastfeeding, increasing their confidence and intrinsic motivation. In this article, the importance of motivational interviewing technique in providing breastfeeding motivation in the postnatal period is explained.

Keywords: Breastfeeding, Mother, Motivation, Motivational Interviewing, Nurse and Midwife

ÖZ

Anne ve bebek sağlığı açısından emzirme süreci önemli bir dönemdir Bu süreçte anne sütünden maksimum düzeyde yararlanabilmek için annenin doğumdan hemen sonra mümkün olan en kısa sürede emzirmeye başlaması ve emzirmeyi sürdürebilmesi önem taşımaktadır. Emzirmenin başlatılması, devamlılığının sağlanması ve sürdürülmesinde fizyolojik, psikolojik sosyal ve motivasyonel faktörlerin etkisi önem taşımaktadır. Annenin emzirme sürecinde herhangi bir emzirme sorunu yaşaması durumunda onun emzirme motivasyonu azalabilmektedir. Son zamanlarda yapılan araştırmalarda emzirme eğitimlerinin; bireysel, teşvik edici, özyeterliliği ve motivasyonu artırıcı tekniklerle yapıldığı görülmektedir. Motivasyonel görüşme bu güncel tekniklerden biridir. Motivasyonel görüşme; bireyin zıt / çelişen duygularını keşfederek çözmesini, değişime yönelik içsel motivasyon kazanmasını sağlayan danışan merkezli kanıta dayalı uygulamadır. Emzirme eğitiminde motivasyonel görüşme tekniği, hemşire ve ebe tarafından annelerin emzirmeye yönelik tutumlarını belirleme, emzirme sürecine uyumunu artırma, bilgi eksikliklerini giderme, emzirme ile ilgili endişelerini azaltma, güvenlerini ve içsel motivasyonlarını artırma gibi destekleyici amaçlarla yapılmaktadır. Şimdiye değin yapılan literatür taramasında emzirme eğitiminde motivasyonel görüşme tekniği ile yapılan çalışmalar sınırlı sayıdadır Bu makalede, doğum sonu dönemde emzirme motivasyonunun sağlanmasında motivasyonel görüşme tekniğinin önemi açıklanmıştır.

Anahtar Kelimeler: Anne, Emzirme, Hemşire ve Ebe, Motivasyon, Motivasyonel Görüşme

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[1] Research Assistant, Özge PALANCI AY, Women's health nursing, Gümüşhane University, Faculty of Health Sciences, Department of Nursing, ozge.plnci@gmail.com, ORCID: 0000-0002-4014-5074
[2] Professor Doctor, Songül AKTAŞ, Midwifery, Karadeniz Technical University, Faculty of Health Sciences, Department of Midwifery, songulbora52@gmail.com, ORCID: 0000-0001-8506-4844

İletişim / Corresponding Author: Özge PALANCI AY
e-posta/e-mail: ozge.plnci@gmail.com

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INTRODUCTION

Breastfeeding is a natural feeding method that has short and long-term positive effects on the health of mother, child, family and society. Breast milk is a unique food that meets all nutritional needs of babies in the first six months of life, is easily digestible and contains protective components against diseases (1). The World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) recommend that infants should be exclusively breastfed for the first six months after birth and then breastfed for two years or longer with appropriate complementary foods (2). According to the latest data published by UNICEF in 2022, the rate of breastfeeding within the first hour after birth is 46% and the rate of exclusive breastfeeding in the 0-5 months period is 48% (3). In Türkiye, according to the Turkish Demographic and Health Survey (TDHS) 2018 data, the rate of exclusive breastfeeding in infants younger than six months is 41%, the median duration of exclusive breastfeeding is 1.8 months, and the rate of infants breastfed within the first hour after birth is 71% (4). As can be seen from these national and international data, the rates of mothers' first breastfeeding, continuity of breastfeeding and exclusive breastfeeding for the first six months are not at the desired level in the world.

Breast milk is stated to be the best food source in infant nutrition. Breastfeeding not only contributes to neonatal, infant and child health but also provides important benefits for the protection, development and promotion of maternal, family and community health (1, 5). These benefits continue not only during breastfeeding but also in all life stages and are too high to be compared with other food groups (6). Breast milk is produced specially for each mother's own baby and varies from mother to mother. In addition, the content of breast milk may vary according to the needs of the baby, the chronological age of the baby, the gestational week and the time period during the day. The content of breast milk consists of water, protein, fat, carbohydrate, electrolytes, immunoglobulins, many minerals and vitamins (6, 7).

During the breastfeeding process, some mothers may experience difficulties due to reluctance to breastfeed, lack of knowledge or belief in the importance of breastfeeding, lack of motivation, low self-efficacy, psychosocial and other reasons (6). In addition, the mother's breastfeeding process may be affected by her previous breastfeeding experiences, the support she receives from her environment for breastfeeding, the examples she sees in others during the breastfeeding process and her psychological status. In this context, mothers are one of the priority groups that should be supported and motivated by midwives and nurses in terms of education in the initiation and maintenance of breastfeeding in the postnatal period. In order to support breastfeeding, interventions such as individual counselling, support practices, group interactions and education will increase the motivation of mothers in the breastfeeding process (8).

Motivation and Breastfeeding

Breastfeeding is an important period in terms of maternal and infant health. In order to benefit from breastmilk at the maximum level during the breastfeeding process, it is important for the mother to start and maintain breastfeeding as soon as possible after birth (9, 10). In this process, physiological, psychological, social, motivational and economic factors have an effect on the continuity and maintenance of breastfeeding. Especially primiparous mothers experience many emotions and states such as anxiety, stress and worry together in this process (11, 12). During the breastfeeding period, the mother's desire and motivation to breastfeed may decrease due to reasons such as experiencing any breastfeeding problem (insufficient breast milk, nipple cracks, etc.), not being able to cope with these breastfeeding problems, low belief that she will be successful in breastfeeding, lack of social support, and not receiving enough

support from health professionals such as midwives, nurses and physicians (13-16). On the other hand, if the mother's intention towards the breastfeeding process is positive, if she believes that she will experience a sense of satisfaction or pleasure with breastfeeding and if she values breastfeeding, mothers will want to breastfeed their babies more and thus will be motivated to breastfeed (17). The success and continuity of breastfeeding in the postnatal period may depend on many factors including the level of motivation for breastfeeding, access to support systems and accurate information sources (18, 19). In order to ensure continuity of breastfeeding in the postnatal period, one of the most modifiable factors in the mother by health professionals is her motivation (13, 20). In this context, health professionals should screen mothers in terms of motivation before providing breastfeeding support. In the literature, it has been reported that mothers with a high level of autonomous motivation are more likely to continue breastfeeding and mothers with a high level of controlled motivation are less likely to continue breastfeeding (11, 17, 21). In some studies, it has been reported that some mothers start breastfeeding because they really believe that breastfeeding is important for the health of their babies, while others start breastfeeding to avoid social stigmatization or guilt as a result of not breastfeeding (18, 22, 23).

Breastfeeding motivation is important in the continuity and maintenance of breastfeeding (13). Conditions such as the mother's perspective on breastfeeding, self-efficacy, self-confidence, emotional state, family and environmental factors affect the mother's motivation to breastfeed (16, 18). In this context, breastfeeding motivation of mothers should be evaluated by health professionals during pregnancy and postnatal period and practices supporting autonomous motivation of mothers should be planned and implemented (11). Since the conditions affecting the motivation of each mother differ, practices aimed at increasing breastfeeding motivation may differ. Interventions such as individual counselling, support practices, group interactions and education will increase the motivation of mothers in the breastfeeding process (22- 24). The success of the mother whose motivation increases will increase in breastfeeding and thus, successful breastfeeding will contribute to the adoption of maternal roles by increasing the mother's self-confidence (22, 24). It is possible to increase breastfeeding self-efficacy and motivation of mothers by improving breastfeeding skills, drawing attention to the positive aspects of breastfeeding, and emphasizing the positive skills of the mother instead of the problems experienced in breastfeeding in breastfeeding education applied in the postnatal period (15, 22). Mothers in the postnatal period are one of the priority groups that should be supported and motivated by midwives and nurses in terms of education in the breastfeeding process. In order to prepare the mother for the breastfeeding process, there are many individual or group trainings such as pregnant education classes, childbirth preparation classes, breastfeeding classes, breastfeeding counselling and baby-friendly, mother-friendly hospital practices (9, 25). There are also many breastfeeding education practices (such as tell what you have learned, family-centered breastfeeding education, online, group, etc.) that support mothers to be competent in the breastfeeding process and encourage them to breastfeed (10, 26, 27). One of these breastfeeding education practices is motivational interviewing technique.

Motivation Concept and Self-Determination Theory Related to Motivation

Motivation is the state of effort, energy and willingness of an individual to achieve a specific goal (28). In other words, motivation is the mobilizing force that enables the individual to continue on the way to reach his/her goals and to cope with the difficulties encountered on this path (28, 29). Each individual has different levels of motivation. A person who is reluctant to take action to realize a situation is referred to as

unmotivated, while a person who is more eager and energetic is referred to as motivated (23, 30)

There are theories explaining the types of motivation of individuals. The theory developed by Deci and Ryan in 1975 as "Self-Determination Theory" is one of them (31). Self-determination theory was developed by Deci and Ryan in 1975 and is a theory for understanding the behaviors and motivations of individuals (32). In the self-determination theory, motivation types are formed by focusing on the reasons that accelerate the individual to act (12). In this theory, motivation is handled in two main categories. These are intrinsic and extrinsic motivation (33). Intrinsic motivation is the actions that the individual performs with an inner sense of pleasure, interest, success, excitement, satisfaction and happiness. Intrinsic motivation is the forces that mobilize the individual from birth (11, 34). Extrinsic motivation, on the other hand, is to perform behavior in order not to feel guilty, to get approval or to be appreciated for the behavior or actions that the individual plans to do in order to achieve his/her goals and objectives (33, 35).

According to the Self-Determination Theory, autonomous motivation consists of situations involving the behaviors that the individual attaches importance to and the individual performs the behavior voluntarily. For this reason, it is stated that individuals with high autonomous motivation act faster and are successful while performing the behavior. In controlled motivation according to Self-Determination Theory; Since it consists of behaviors such as social pressure, causality and individuality, it is stated that individuals who act with this controlled motivation cannot continue that behavior for a long time (33-35).

Motivational Interview Technique

Motivational interviewing is a client-centered counselling method that helps individuals resolve their ambivalence about health behavior change by creating intrinsic motivation and strengthening commitment (37). It is also defined as a patient/individual-centered guiding method aiming at resolving ambivalence, strengthening motivation and change (37, 38). The main aim of motivational counselling is to stimulate intrinsic motivation for change in individuals who have conflicting emotions or are reluctant to change, to increase motivation for change and to ensure active participation of the individual in the change process (38-40). Motivational interviewing technique was first used by William Miller in 1983 in patients with alcohol dependence. In time, as the positive effects of the technique started to be observed, its application area expanded (41, 42). Since the early 1990s, it is a widely used method to cope with many health problems such as obesity, hypertension, diabetes, substance addiction (such as smoking, alcohol, etc.), cardiovascular diseases, hyperlipidemia, obsessive-compulsive disorders, depression and eating disorders (41, 43-45).

Characteristics of Motivational Interview Technique

The general features of the motivational interview technique are stated below:

- Client-centered. The interviewer focuses on the problems stated by the client.

- The person who is the expert in the interview is the client. The counsellor is not in the role of the knower and therefore the therapist does not impose his/her own thoughts but focuses on the client's problems.

- Motivational interviewing accepts the client without judgement and reveals the client's desire for change.

- It is more of a partnership than a therapeutic relationship.

- It helps the client to understand the reasons for change or not to change. If the client does not make any decision for change, solutions cannot be offered.

- Resistance and denial are not seen as client characteristics and are considered as feedback to the counsellor's behavior. Resistance is resolved through reflective listening.

- Ambivalent feelings are solved by the client, not by the therapist.

- Aggressive confrontation, direct persuasion and discussion are not included in the process of motivational interviewing technique.

- Counsellor's communication skills, body language and the atmosphere of the counselling environment can be determinative in the effectiveness of counselling (39, 41, 45-48).

Principles of Motivational Interviewing Technique

In motivational interviewing technique, four basic principles of motivational interviewing are used to create behavioral change in the individual and to motivate him/her (39). These are;

- Showing empathy

- Identification of contradictions

- Solving resistance

- Supporting self-efficacy - self-efficacy (38, 45)

Showing empathy

It includes an approach that respects and supports the individual's feelings, point of view and thoughts without judgement, contrary to criticism (45). The fact that the counsellor does these does not mean that he/she completely accepts the individual or agrees with him/her. Here, it is not the individual who is not approved, but only the problematic behavior (38, 39).

Identification of contradictions

The principle of revealing contradictions is to reveal the contradictions that exist between the individual's current behavior and his/her goals in his/her own mind and to enable the individual to see these contradictions (49, 50). For this purpose, attention is drawn to the contradiction between where the individual is and where he/she wants to be. The individual is helped to be motivated for change by making him/her realize the contradictory and non-supportive areas (39, 49).

Resolving resistance

Motivational interviewing technique is not a war between the client and the counsellor (39). There is no winner or loser in the process. The goal of the therapist is not to bring new goals to the individual, but to provide the individual with an up-to-date approach to change and to gain a new perspective in behavior change (41). At this stage, the counsellor should avoid a persistent attitude, should not try to persuade, and should enable the individual to produce solutions (28, 43).

Self-efficacy - supporting self-efficacy

Supporting the self-efficacy of the individual in motivational interviewing is important for behavior change (44). During the motivational interview, the counsellor should increase the self-efficacy of the individual and ensure the belief that the individual can overcome the difficulties that may be experienced with change (50).

Basic Techniques of Motivational Interviewing

Five basic techniques are used in the motivational interview process (50). The first four basic techniques are asking open ended questions, affirmations, reflective listening and summarizing. These are abbreviated as OARS (open ended questions, affirmations, reflective listening, summarizing) in English (40, 50). QARS are the most frequently and widely used techniques since the first emergence of motivational interviewing. The fifth technique is eliciting change talk. This method integrates the other four methods (42).

Asking open-ended questions

One of the basic techniques of motivational interviewing is to ask open-ended questions. Asking open-ended questions prevents the development of resistance in the client, reveals the individual's thoughts on the subject and enables the person to evaluate his/her views from a wide perspective (50, 51). It includes questions whose answer is not yes or no. The individual gives detailed answers to

the questions. Open-ended questions allow the counsellor to express himself/herself freely and without fear, thus helping to enrich communication. It also prepares the ground for the counsellor to empathize (30). Example: "*How do you feel about your breastfeeding?*" (50).

Supporting

It is to make the client aware of his/her strengths, to highlight his/her achievements and behaviors in the direction of change. Supporting should be realistic and compatible (50). The belief that the individual has the possibility to change is an important source of motivation (51). Example: "*I can see that you are very determined about this"* (50).

Reflective listening

Reflective listening is to understand what the client says and to reflect what the client says to himself/herself. The aim here is for the client to continue talking and thinking about change (50, 52). In reflective listening, the counsellor does not say anything new, what the client says is repeated to him/her and thus the resistance shown by the client is broken (44). Example: Mother: "*I want to feed my baby only with breast milk"*, Counsellor: "*You want to give your baby only breast milk*" (50).

Summarization

Summarizing aims to collect and reflect the information in the interview process. With this method, it is possible to complete the missing information and misunderstandings, if any (39). Summaries should be used in the middle of the interview when moving on to another topic or to clarify both sides of the client's contradictory thoughts (38, 40).

Revealing the exchange speech

Change talk enables the individual to defend his/her views in the change talk (49). Revealing the change talk is important throughout the motivational interview and can be used as a constant reminder of the reasons for commitment to change (37). In order for individuals to accept the change process, an evaluation is made about the point reached and the problem and change are supported by using the summarizing method. The counsellor can provide information and suggestions to the individual when necessary (39).

Use of Motivational Interviewing Technique in Breastfeeding Process and Nursing Approach

Breastfeeding education and support are important in ensuring that breastfeeding is initiated and maintained as soon as possible in the postnatal period (27). It is important for mothers to have qualified information about breastfeeding, to make informed decisions in this process, and the role of breastfeeding education and support in initiating and maintaining breastfeeding (53-55). Breastfeeding trainings are applied to encourage mothers to breastfeed during the breastfeeding process, to support them to feel competent and strong in this process, and to increase their self-efficacy and motivation in breastfeeding, adapted according to their individual needs (56).

Nurses and other health professionals who are in constant communication with mothers during the breastfeeding process have an important role in the quality and successful management of this process (26). Although nurses do not receive a separate training under the name of motivational interviewing technique in the vocational education process, the basic knowledge and skills of motivational interviewing are mostly included in the basic nursing education curriculum (40, 42). Nurses have important roles in creating behavioral change in the mother during the breastfeeding process and ensuring the continuity of breastfeeding (26, 27). In this context, nurses can receive training on motivational interviewing technique, which is a short and effective method, and use it both in the breastfeeding process and in other areas of health services (15, 18, 57).

Motivational interviewing is a therapeutic approach that increases the internal motivation of individuals and prepares them for change. Mothers may encounter physical and emotional difficulties during breastfeeding (58). Motivational interviewing

is important for these mothers to cope with their difficulties. Motivational interviewing has a supportive role in helping mothers to adapt to the breastfeeding process, to determine their attitudes towards breastfeeding, to address their lack of knowledge about breastfeeding and their concerns about this process, to increase their confidence and intrinsic motivation about breastfeeding, and to continue breastfeeding by helping behavioral change when necessary (52). In the literature, there are national and international studies on breastfeeding training with motivational interviewing technique in supporting breastfeeding. In 2017, in a randomized controlled study conducted by Cangöl and Şahin, a significant increase was found in the mean score of self-confidence level in the breastfeeding process of mothers in the experimental group of motivational interviewing, which started during pregnancy and continued in the postpartum period, compared to the control group (18). Franco-Antonio et al. (2021) found that a short motivational interview conducted with 88 mothers who had vaginal delivery in the immediate postpartum period (between the first and second hours after delivery) increased the breastfeeding self-efficacy of mothers (56). In a study by Bekmezci and Meram (2023) in which primiparous mothers who had cesarean delivery were given breastfeeding training based on motivational interviewing a total of four times in the postpartum period, it was found that breastfeeding self-efficacy increased their confidence and competence levels in breastfeeding (52). Naroee et al. (2020) found that motivational interviewing applied in four 45- to 60-minute sessions with 140 primiparous women was effective in increasing mothers' breastfeeding self-efficacy and the number of breastfeeding days (15). Zunza et al. (2023) found that the motivational interview they conducted to encourage HIV-positive mothers who gave vaginal delivery to breastfeed contributed to increase the rate of exclusive breastfeeding in the twenty-fourth week after delivery (59). In a randomized controlled trial conducted by Addicks and McNeil (2019) using motivational interviewing technique to improve breastfeeding outcomes, it was found that the level of confidence and competence of mothers in the breastfeeding process increased (20). In Brazil in 2021, Dodou et al. examined the effect of motivational interviewing trainings on the breastfeeding self-efficacy score of mothers on the 7th, 30th, 90th and 150th days after birth with 240 mothers and found that the breastfeeding self-efficacy score of the mother in the postpartum period was higher in the experimental group than in the control group (60). In a doctoral thesis study conducted by Palancı Ay (2024), it was found that breastfeeding education given by a nurse to primiparous mothers with motivational interviewing technique in a total of 4 sessions increased the value given to breastfeeding, self-efficacy and midwife support sub-dimensions of breastfeeding motivation (19). As can be understood from all these study findings, breastfeeding education given with motivational interviewing technique has a positive effect on breastfeeding outcomes such as breastfeeding self-efficacy and motivation. The quality of breastfeeding education protects and improves maternal, newborn and family health and increases the quality of postpartum midwifery and nursing care.

CONCLUSION AND RECOMMENDATIONS

As a result, it is seen that the motivational interviewing technique can increase the motivation of mothers in the breastfeeding process, their positive intentions towards breastfeeding, their self-efficacy and contribute to the most effective continuation of the breastfeeding process by creating behavioral changes in the mother. In addition, the baby of the mother whose breastfeeding motivation increases with the motivational interview technique will benefit more from breast milk and the baby will be more successful in social relationships throughout his/her life and become an emotionally

satisfied individual. The mother protects and improves the mental health of the newborn. In addition, it increases the quality of postpartum nursing and midwifery care. With this review, it is recommended that motivational interviewing technique should be used more widely in breastfeeding trainings given by nurses and midwives in the provision of breastfeeding support necessary to increase breastfeeding motivation of mothers in the postpartum period. In addition, in-service trainings should be given to healthcare professionals, especially nurses and midwives, in order to increase their awareness of the motivational interviewing technique and their participation in motivational interviewing technique trainings should be supported.

REFERENCES

1. Kalarikkal SM, Pfleghaar JL (2023). Breastfeeding. StatPearls Publishing. [online]. Available from: https://www.ncbi.nlm.nih.gov/books/NBK534767/ [Accessed 28 March 2024].

2. World Health Organization (2023). Infant and young child feeding. [online]. Available from: https://www.who.int/news-room/fact-sheets/detail/infant-and-young-child-feeding [Accessed 28 March 2024].

3. Birleşmiş Milletler Çocuklara Yardım Fonu (2024). Breastfeeding. [online]. Available from: https://data.unicef.org/topic/nutrition/breastfeeding/ [Accessed 30 March 2024].

4. Türkiye Nüfus ve Sağlık Araştırması (2018). Bebeklerin ve küçük çocukların beslenmesi. Available from: https://fs.hacettepe.edu.tr/hips/dosyalar/Ara%C5%9Ft%C4%B1rmalar%20-%20raporlar/2018%20TNSA/TNSA2018_ana_Rapor_compressed.pdf [Accessed 30 March 2024].

5. Lawrence RA, Lawrence RM (2021). Breastfeeding: a guide for the medical professional. Elsevier Health Sciences.

6. Kurt NC (2020). Anne sütüne ve emzirmeye genel bakış. Klinik Tıp Pediatri Dergisi 12(1): 20-25.

7. Shah R, Sabir S, Alhawaj A (2022). Physiology, Breast Milk. StatPearls [online]. Available from: https://europepmc.org/article/NBK/nbk539790 [Accessed 29 April 2024].

8. Palancı Ay Ö, Aktaş S (2023). Emzirme ve Laktasyon. Aktaş S, Aksoy Derya Y, Toker E (Ed.), A'dan Z'ye Temel Ebelik. İstanbul Tıp Kitabevi, İstanbul; Sayfa: 1055-1165.

9. Prentice, A.M. (2022). "Breastfeeding in the Modern World". Annals of Nutrition and Metabolism, 78 (Suppl. 2): 29-38.

10. Lawrence, R.A, Lawrence, R.M. (2021). "Breastfeeding: a guide for the medical professional Elsevier Health Sciences.

11. Mizrak Sahin, B, Ozerdogan, N, Ozdamar, K, Gursoy, E. (2019). "Factors Affecting Breastfeeding Motivation İn Primiparious Mothers: An Application of Breastfeeding Motivation Scale Based on Self-Determination Theory". Health Care for Women International, 40 (6): 637-652.

12. Stockdale, D.J, Sinclair, M, Kernohan, W, Keller, J. (2011). "Understanding Motivational Theory and The Psychology of Breastfeeding". Theory for Midwifery Practice Palgrave Macmillan, 92-106.

13. Akçay, İ, Bal M.D. (2020). "The Prımıpara Breastfeedıng Motıvatıon Scale the Turkısh Adaptatıon: Valıdıty-Relıabılıty Study". Ankara Medical Journal, 20 (1): 78-90.

14. Soyhan, F, Demirci, N. (2020). "Breastfeedıng Counseling in Turkey and The World". Journal of Women's Health Nursing, 6 (2): 101-114.

15. Naroee, H, Rakhshkhorshid, M, Shakiba, M, Navidian, A. (2020). "The Effect of Motivational İnterviewing on Self-Efficacy and Continuation of Exclusive Breastfeeding Rates: A Quasi-Experimental Study". Breastfeeding Medicine, 15 (8): 522-527.

16. Martin, H, van Wijngaarden, E, Seplaki, C.L, Stringer, J, Williams, G.C, Dozier, A.M. (2022). "Breastfeeding Motivation Predicts İnfant Feeding İntention and Outcomes: Evaluation of A Novel Adaptation of The Treatment Self-Regulation Questionnaire". Journal of Human Lactation, 38 (2): 236-247.

17. Kestler-Peleg, M, Shamir-Dardikman, M, Hermoni, D, Ginzburg, K. (2015). "Breastfeeding Motivation and Self-determination Theory". Social Science & Medicine, 144: 19-27.

18. Cangöl, E, Şahin, N.H, (2017). "The Effect of a Breastfeeding Motivation Program Maintained During Pregnancy on Supporting Breastfeeding: A Randomized Controlled Trial". Breastfeeding Medicine, 12 (4): 218-226.

19. Palancı Ay, Ö. (2024). Vajinal Doğum Yapan Annelere Motivasyonel Görüşme Tekniği ile Verilen Emzirme Eğitiminin Emzirme Motivasyonu, Öz Yeterliliği ve Bağlanma Üzerine Etkisi. Doktora Tezi. Karadeniz Teknik Üniversitesi Sağlık Bilimleri Enstitüsü, Trabzon.

20. Addicks, S.H, McNeil, D.W. (2019). "Randomized Controlled Trial of Motivational İnterviewing to Support Breastfeeding Among Appalachian Women". Journal of Obstetric, Gynecologic & Neonatal Nursing, 48 (4): 418-432.

21. Lau, C.Y, Fong, D.Y, Choi, A.Y, Ng, J.W, Sing, C, Tarrant, M. (2017). "Development and Measurement Properties of the Chinese Breastfeeding Self-Regulation Questionnaire". Midwifery, 44: 24-34.

22. Lau, C.Y, Fong, D.Y, Chan, V.H, Lok, K.Y, Ng, J.W, Sing, C, Tarrant, M. (2022). "The Effect of Maternal Self-Regulated Motivation on Breastfeeding Continuation". Maternal and Child Health Journal, 1-8.

23. Şahin, B.M. (2018). "Emzirmenin Sürdürülmesi ve Başarısında Anahtar Faktör: Öz-Belirleme Kuramına Dayalı Emzirme Motivasyonu.". STED, 27 (4): 291-295.

24. Çerçer, Z. (2023). "The Effects of The Breastfeeding Problems Management Model on Breastfeeding Problems, Breastfeeding Motivation and Breastfeeding Success: A Randomized Controlled Trial". Journal of Pediatric Nursing, 73: e116-e124.

25. Linde, K, Lehnig, F, Nagl, M, Kersting, A. (2020). "The Association Between Breastfeeding and Attachment: A Systematic Review". Midwifery 81: 102592.

26. Öcalan, D, Bektaş, H.A, Altun, S.N. (2024). "Breast Counseling Strategies and Evidence-Based Practices". J TOGU Heal Sci, 4 (1): 120-136.

27. Durmazoğlu, G, Okumuş, H. (2019). "Investıgatıon of Breastfeeding Education Used in Innovatıve and Current Traınıng Methods". Samsun Sağ Bil Der, 4 (1): 23-31.

28. Filgona, J, Sakiyo, J, Gwany, D, Okoronka, A. (2020). "Motivation in learning". Asian Journal of Education and social studies, 10 (4), 16-37.

29. Macvean, A, Robertson, J. (2013). "Understanding Exergame Users' Physical Activity, Motivation and Behavior Over Time". Proceedings of the SIGCHI Conference on Human Factors in Computing Systems, 1251-1260.

30. Lin, L, Zhang, T. (2011). "Playing exergames in the classroom: Pre-Service Teachers' Motivation, Passion, Effort, and Perspectives". Journal of Technology and Teacher Education, 19 (3): 243-260.

31. Deci, E.L, Ryan, R.M. (1975). "Intrinsic motivation: Wiley Online Library. Plenum Publishing Co.: New York; p.

32. Ryan, R.M, Deci, E.L. (2000). "Intrinsic and Extrinsic Motivations: Classic Definitions and New Directions". Contemporary Educational Psychology, 25 (1): 54-67.

33. Ryan, R.M, Deci, E.L. (2022). "Self-Determination Theory. Encyclopedia of Quality of Life and Well-Being Research". Springer, 1-7.

34. Ryan, R.M, Deci, E.L. (2017). "Self-determination theory: Basic psychological needs in motivation, development, and wellness Guilford publications.

35. Williams, L. (2023). "Motivational interviewing. In Alcohol Use: Assessment, Withdrawal Management, Treatment and Therapy: Ethical Practice" (pp. 363-380). Cham: Springer International Publishing.

36. Miller, W. R. (2023). "The evolution of motivational interviewing". Behavioural and Cognitive Psychotherapy, 51 (6), 616-632.

37. Melissa D., Wendy D (2020). "Motivate to Lactate": Utilizing Motivational Interviewing to Improve Breastfeeding Rates". The Journal of Perinatal Education, 29 (1).

38. Miller, W.R, Rollnick, S. (2013). "Motivational interviewing: Helping people change (applications of motivational interviewing)" Guilford press.

39. Ögel, K. (2009). "Motivational İnterviewing". Turkiye Klinikleri J Psychiatry-Special Topics, 2 (2): 41-44.

40. Orhan, İ, Yağmur Y. (2023). "Motivasyonel Görüşme". In:N. Baltacı (Ed.), D. Yüksekol (Ed.), N. Kızılkaya Beji (Ed.). Kadın Sağlığında Bütünleşık Uygulamalar Ve Bakım (881). Bilkent-Çankaya/Ankara: Nobel Akademik Yayıncılık Eğitim Danışmanlık Tic. Ltd. Şti

41. Kızılırmak, M, Demir, S. (2018). "The Motivational Interview and Using in Nursing" Gümüşhane University Journal of Health Sciences, 7 (4): 103-109.

42. Erat, A, Ceyhan, Ö. (2020). "Preparing for Change with Motivational Interview". ERÜ Sağlık Bilimleri Fakültesi Dergisi, 7 (1): 58-63.

43. Rubak, S, Sandbæk, A, Lauritzen, T, Christensen, B. (2005). "Motivational İnterviewing: A Systematic Review and Meta-analysis". British Journal of General Practice, 55 (513): 305-312.

44. Hettema, J, Steele, J, Miller, W.R. (2005). "Motivational İnterviewing". Annu Rev Clin Psychol, 1: 91-111.

45. Rollnick S, Miller WR, Butler CC, Aloia MS. (2008). Motivational interviewing in health care: helping patients change behavior. Taylor & Francis; p.

46. Boman, J, Lindqvist, H, Forsberg, L, Janlert U, Granåsen, G, Nylander, E. (2018). "Brief Manual-based Single-session Motivational Interviewing for Reducing High-risk Sexual Behaviour in Women–an Evaluation". International journal of STD & AIDS, 29 (4): 396-403.

47. Klonek, F.E, Wunderlich, E, Spurk, D, Kauffeld, S. (2016). "Career Counseling Meets Motivational İnterviewing: A Sequential Analysis of Dynamic Counselor–Client İnteractions". Journal of Vocational Behavior, 94: 28-38.

48. Alpay, S., & Şahin, E. (2024). Türkiye'de Doğum ve Kadın Hastalıkları Hemşireliği ve Ebelik Lisansüstü Tezlerinde Motivasyonel Görüşme Tekniği Kullanımı. Kadın Sağlığı Hemşireliği Dergisi, 10(2), 104-118.

49. Dicle, A.N. (2017). "Motıvatıonal Intervıewıng: Component, Prıncıple and Methods". International Journal of Socıal Humanıtıes Scıences Research, 4 (15): 2043-2053.

50. Ögel, K, Şimşek, M. (2021). "Motivasyonel Görüşme Tekniği". İstanbul: İş Bankası Yayınları.

51. Bischof, G, Bischof, A, Rumpf, H-J. (2021). "Motivational interviewing: an evidence-based approach for use in medical practice". Deutsches Ärzteblatt International, 118 (7): 109.

52. Bekmezci, E., Meram, H. E. (2024). The Effect of Motivational Interview-Based Breastfeeding Education on Breastfeeding Motivation, Breastfeeding Success, And Breastfeeding Self-Efficacy Perceptions After Cesarean Section: A Study Protocol for A Randomised Controlled Trial. Turkiye Klinikleri Journal of Health Sciences, 9(3), 465-473.

53. Kehinde, J, O'Donnell, C, Grealish, A. (2023). "The Effectiveness of Prenatal Breastfeeding Education on Breastfeeding Uptake Postpartum: A Systematic Review". Midwifery, 118: 103579.

54. Palancı Ay, Ö., Aktaş, S. (2024). "The Effect of Maternal Functional and Postpartum Depression Status on Breastfeeding Self-Efficacy of The Mothers: A Cross-Sectional Study". Health Care for Women International, 45 (2), 236-250.

55. Aktaş, S., & Küçük Alemdar, D. (2019). Correlation between infantile colic and maternal breastfeeding self-efficacy, breastfeeding success and breast milk amount. Journal of Tropical Pediatrics, 65(4), 321-327.

56. Franco-Antonio, C, Santano-Mogena, E, Sánchez-García, P, Chimento-Díaz, S, Cordovilla-Guardia, S. (2021). "Effect of A Brief Motivational İntervention in the İmmediate Postpartum Period on Breastfeeding Self-Efficacy: Randomized Controlled Trial". Research in Nursing & Health, 44 (2): 295-307.

57. Östlund, A.S, Wadensten, B, Häggström, E, Lindqvist, H, Kristofferzon, M.L. (2016). "Primary Care Nurses' Communication and İts İnfluence on Patient Talk During Motivational İnterviewing". Journal of Advanced Nursing, 72 (11): 2844-2856.

58. Shakiba, M, Navaee, M, Hassanzei, Y. (2020). "The Effect of Motivational İnterviewing on Attitude and Practice About Type of Delivery in Primigravid Women Requesting Elective Cesarean Section Referring to Comprehensive Health Services Centers". Journal of Education and Health Promotion, 9.

59. Zunza, M, Young, T, Cotton, M, Slogrove, A, Mbuagbaw, L, Kuhn, L, Thabane, L. (2023). "Evaluating İnteractive Weekly Mobile Phone Text Messaging Plus Motivational İnterviewing for Breastfeeding Promotion Among Women Living With HIV, Giving Normal Birth at A Primary Healthcare Facility in South Africa: A Feasibility Randomised Controlled Trial". BMJ open, 13 (10): e073385.

60. Dodou, HD, Bezerra, R.A, Chaves, A.F.L, Vasconcelos, C.T.M, Barbosa, L.P, Oriá, M.O.B (2021). T"elephone İntervention to Promote Maternal Breastfeeding Self-Efficacy: Randomized Clinical Trial". Revista da Escola de Enfermagem da USP, 55: e20200520.

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Occupational Health and Safety in Fuel Stations: Hazard Analysis and Risk Assessment

Akaryakıt İstasyonlarında İş Sağlığı ve Güvenliği: Tehlike Analizi ve Risk Değerlendirmesi

Okan ÖZBAKIR[1]

ABSTRACT

Fuel stations are fuel storage facilities located in urban and rural areas. The fuels sold at these stations have the potential to cause occupational diseases as well as fire and various accidents. In terms of occupational health and safety, the workload and risks that fuel station employees are exposed to vary. Employees handle not only basic tasks like refueling, sales, and communication, but also additional security and service responsibilities. This study identified hazards affecting employees and customers at a fuel station in Iğdır province and rated the resulting risks using the matrix method. It was determined that the probability (l:3) and the result (c:5) are high (r:15) for the risk of fire and explosion that may be caused by leaks that may occur during refueling of vehicles. Among the preventive measures, it has been revealed that the risk value r:15 should be aimed at eliminating the sources that may cause or create sparks. It has been observed that the fact that employees do not have adequate training on the risks arising from the conditions of the execution of the work (r:10) and that they are not adequate about what to do in emergencies (r:10) are among the important risks for the enterprise. In addition, the study recommended that deficiencies related to the existing electrical system (r:10) and equipment, which pose a high risk, should be eliminated. Establishing and properly implementing occupational health and safety strategies in the workplace can control unsafe actions and conditions in the stations.

Keywords: Fuel Station, Hazards, Occupational Health and Safety, Risk

ÖZ

Akaryakıt istasyonları, şehir içi ve kırsal bölgelerde bulunan yakıt depolama tesisleridir. Bu istasyonlarda satılan yakıtlar, yangın ve çeşitli kazalara yol açabildiği gibi meslek hastalıklarına neden olma potansiyeline de sahiptir. İş Sağlığı ve güvenliği açısından benzin istasyonu çalışanlarının maruz kaldığı iş yükü ve riskler çeşitlilik göstermektedir. Çalışanlar, sadece yakıt ikmali, satış ve iletişim gibi temel görevlerle sınırlı kalmayıp, aynı zamanda ek güvenlik ve hizmet sorumluluklarını da üstlenmektedirler. Bu çalışmada Iğdır ilinde hizmet veren bir akaryakıt istasyonu dikkate alınarak çalışanları ve müşterileri etkileyebilecek tehlikeler belirlenmiş, bu tehlikeler sonucunda meydana gelebilecek riskler matris yöntemi ile derecelendirilmiştir. Araçlara yakıt ikmali esnasında meydana gelebilecek sızıntıların oluşturabileceği yangın ve patlama riski için ihtimal (i:3) ve sonucun yüksek (c:5) olduğu (r:15) en riskli durumu oluşturduğu tespit edilmiştir. Önleyici tedbirler arasında risk değeri r:15 ile kıvılcım oluşması veya oluşturacak kaynakların ortadan kaldırılmasına yönelik olması gerektiği ortaya konulmuştur. Çalışanların gerek işin yürütüm şartlarından kaynaklı riskler konusunda yeterli eğitime sahip olmamaları (r:10) gerekse acil durumlarda yapılması gerekenler konusunda yeterli olmamaları (r:10) işletme için önemli riskler arasında olduğu gözlenmiştir. Ayrıca çalışmada işletmede yüksek risk ihtiva eden mevcut elektrik sistemi (r:10) ve ekipmanları ile ilgili eksikliklerin giderilmesi gerektiği önerilmiştir. Çalışanlar açısından iş yerinde iş sağlığı ve güvenliği stratejilerinin oluşturularak doğru bir şekilde uygulanmasıyla istasyonlardaki güvensiz eylemlerin ve koşulların kontrol altına alınabileceğini öngörmektedir.

Anahtar Kelimeler: Akaryakıt İstasyonu, Tehlike İş Sağlığı ve Güvenliği, Risk

[1] Assistant Professor, Okan ÖZBAKIR, Occupational Health and Safety, Igdir University and Mine Technology, VSHETS, okan.ozbakir@igdir.edu.tr, ORCID: 0000-0001-8997-9451

İletişim / Corresponding Author: Okan ÖZBAKIR
e-posta/e-mail: okan.ozbakir@igdir.edu.tr

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INTRODUCTION

In recent years, the continuous acceleration of urbanization and the rapid rise in people's living standards have led to an increase in the number of fuel stations. The fuel station sector, which is an important link in the petroleum industry chain, contributes significantly to the economy[1]. Fuel stations are places where motor vehicles meet their fuel needs. These stations are the places where the fuel stored by special devices is filled into the tanks or fuel containers of motorized road vehicles. In addition, vehicle tires, accumulators and market services are also offered at these stations[2]. Some fuel stations have repair departments that provide services such as vehicle washing, lubrication, vehicle inspection and brake system.

In Turkey, there are approximately 25.32 million road vehicles in January 2022[3]. During this period, 3.29 million tons of gasoline types, 24.54 million tons of diesel types, 253 thousand tons of fuel oil[4] and 3.91 million tons of LPG were consumed[5]. While the number of fuel stations was 12,429 in July 2023, it was approximately 12,500 as of November 15, 2023. In terms of market share, Petrol Ofisi has a 21% share[6]. According to Petder's 2022 report, the sector directly employs around 150,000 people, including around 95,000 forecourt workers, 45,000 transportation/other station staff and 10,000 distribution company employees.

The oil and gas industry is one of the world's highest-risk sectors and has played an important role in occupational health and safety. Occupational accidents occur frequently, especially in areas where fuel unloading and filling processes take place, and occupational diseases have become a widespread problem[7]. In the United States, 43 people lost their lives in this sector in 2022, with 2.5 occupational accidents per 100 full-time workers and 1.3 lost days[8]. 25 of 41 accidents at fuel stations in Korea between 1992 and 2003 resulted in fire and explosion[9]. The US National Fire Protection Association reported that they responded to an average of 4150 fuel or service station fires per year between 2014 and 2018, mainly caused by electrical, lighting and vehicle fires[10]. Similar fires, work accidents and near-miss incidents occur frequently in our country, but no statistics are kept for this field of activity. Gas measuring devices or early warning systems are not available or legally mandated at stations to detect explosion or fire situations[2]. However, there are automatic fuel cut-off systems to detect fuel leaks. In this context, workers need to be protected from potential harm from the types of fuel available, lubricants and equipment used. However, another important aspect in terms of occupational safety is the fact that these hazards can affect not only employees but also customers visiting the station[11]. This is a critical issue in the operation of fuel stations, emphasizing both staff and visitor health and safety.

Personnel working in fuel stations experience high levels of exposure to chemical risks. Exhaust gases emitted around the station can increase the presence of highly toxic carbon monoxide gas, which is odorless and colorless[12]. Personnel may be at risk of inhaling this gas, especially in confined spaces and during maintenance operations when the engine is running[13].

Using the mouth to create a vacuum when pumping gasoline or ingesting gasoline through the mouth for similar reasons can increase the risk of pneumonia by workers inhaling gasoline vapors[14]. Benzene in gasoline can increase the risk of cancer for workers in case of long-term exposure[15]. Petroleum products that come into contact with personnel's bodies and hands can cause skin problems such as dermatitis[16]. During the control and maintenance of the brake systems of vehicles coming to the station, there is a risk of exposure to asbestos dust, which can be found in brake pads, especially in older model vehicles[17]. Personnel working in fuel stations may experience health problems related to the musculoskeletal system, especially due to manual lifting and

transportation operations, as well as working in open areas[18].

The atmosphere in fuel stations contains volatile organic compounds from fuel vapors and combustion processes[19]. These compounds include substances such as benzene, toluene, ethyl benzene and xylene[20]. Gasoline can emit a vapor that can easily ignite even at low temperatures[21]. This characteristic makes fuel stations workplaces with a high risk of fire and explosion. If gasoline vapor comes into contact with a flammable heat source, sudden and large-scale fires and explosions can occur[22]. Research has shown that electrostatic charges are the main factor in fire formation[23]. Tanker trucks carry various risks during their use at stations and during maintenance, in structural additions and on personnel.

Various risk assessment criteria are currently applied in many organizations[24]. It has the potential to create undesirable scenarios while continuously uncovering factors that contribute to hazard during the operation and maintenance of fuel stations[25]. Therefore, risk assessment studies that prioritize hazards and calculate the risk value are required to assist health and safety professionals in decision-making[26]. Risk analysis criteria can be used to prioritize different risky activities, providing safety professionals with valid information to set the company's objectives. During operation, both the operator and the customer may engage in risky activities that could result in serious or minor injury. With the right approach and examination of accident causes, unsafe actions and conditions can be significantly reduced[27]. Adopting behavior-based safety strategies and identifying at-risk behaviors can significantly improve the safety situation[28]. Hazard identification and risk assessment is an important tool for prioritizing hazardous activities. They are ranked according to their consequence level and corrective and control measures are taken.

In our country, research on occupational risk factors of fuel station workers is very limited. These workers have a heavy workload that is not only limited to tasks such as refueling and sales, but also has additional safety responsibilities. Their work involves long periods of standing, shift work, and often exposure to noise, fumes and organic solvents[29]. It also requires a high level of focus and attention in order to work correctly and prevent accidents in the workplace. In addition, fuel stations are known to provide favorable conditions for occupational accidents. For these reasons, protecting the physical and mental health of fuel station employees, preventing accidents and improving their overall well-being is a critical issue[30]. In this context, taking concrete steps and implementing preventive measures are of great importance.

Occupational accidents are defined as events that cause occupational disease, injury, death or damage to the equipment used as a result of an unintended and undesired event. According to the Workplace Hazard Classes Notification on Occupational Health and Safety published in the official newspaper dated 26.12.2012, fuel stations are workplaces evaluated in the very dangerous class and the possibility of employees being exposed to occupational accidents is quite high. For this purpose, in order to evaluate the risks that occur during the work carried out in the station sampled in the study;

1. Are the health and safety measures at the fuel station selected for the study really designed to protect employees to the extent required by law?

2. How do employees perceive the performance of the measures taken?

3. Are there any hazards associated with the tools, machinery or equipment used?

4. Are workers exposed to excessive heat or cold?

5. Is there excessive noise or vibration?

6. Are they likely to be harmed or made ill by the effects of chemicals?

7. Is contact with hot, toxic or corrosive products possible?

8. Are workers exposed to airborne dust, gas, fumes, mist or vapors?

It was tried to find answers to the questions. A major problem is the lack of knowledge among workers about environmental accidents and occupational diseases and the lack of training in the sector. Basically, such studies are carried out in three stages of hazard identification and risk assessment. These are project phase, implementation (development and construction phase) and operation and maintenance phase[31]. The probability and consequence of hazards at each stage are different and varied. However, this study focuses on the factors that contribute to hazards in the operation and maintenance phase.

MATERIAL METHOD

Risk analysis starts with the identification of hazards arising from the execution of work or associated with material properties[32]. This phase identifies the sources of hazards and the risks they pose. Each risk is analyzed separately and the combined effects of these risks and their relationship with other jobs are considered[33]. Such studies require technical and scientific teamwork. Analytical methods are used to determine the level of identified risks or the consequences of hazards. The process of risk assessment involves the continuous review of risks in a cycle[34]. In line with risk assessments, appropriate measures are taken to prevent risks or to take into account the emergence of new risks[35]. Methods such as observation and interview were preferred as data collection tools. The observation method is based on meticulous monitoring of actions that take place in working conditions and increases employees' awareness of exposure to potential risk categories. In addition to observations, interviews and questionnaires with employees provided information on the types and dimensions of physical, chemical, biological, ergonomic and psychosocial risks occurring in the workplace. In addition to the data from the interviews, we used the matrix method to assess and analyze the risks.

The matrix method used in the study combines quantitative or semi-quantitative results and probability ratings to produce a risk level or risk rating. The structure and content of the matrix varies depending on the intended use and context, and it is of great importance to choose an appropriate design[36].

A consequence/probability matrix is used to classify risks, resources or control measures according to their risk level. This matrix is widely used as a screening tool in situations where many risks have been identified, to identify which risks need more detailed analysis, which ones should be addressed first, or which ones should be addressed by higher-level management[37]. In the study, this type of risk matrix was used to select which risks are prioritized. It is also often used to determine whether a particular risk is acceptable or unacceptable, depending on its position on the matrix. The consequence/probability matrix can help communicate a more general understanding of the qualitative levels of risks within the organization. The determination of risk levels and the decision rules for those levels should be consistent with the organization's risk tolerance. It can also be used when there is insufficient data for a detailed analysis or when the situation does not warrant a more quantitative analysis.

The inputs to the process consist of specific scales for consequence and likelihood, and a matrix that combines these two scales. The consequence scale should cover a range of outcomes from lost work time, lost work days, financial loss, loss of limb, or death (Table 1). These results should cover a wide range from the highest loss to the lowest result. The scale can be as large as the study requires, but 4 or 5-point scales are generally preferred. The probability scale can have any number of points[27]. Probability definitions should be chosen as clearly as possible. If numerical guides are used to

express different probabilities, units should be specified (Table 1).

It is important that the probability scale reflects the scope of the study. It should be kept in mind that the lowest probability should be acceptable, corresponding to the highest outcome identified. Otherwise, a situation may arise where all activities with the highest outcome are considered unacceptable. In the second stage of the study, preventive actions were identified for each risk, and if they were taken, the probability and consequence values, and therefore the risks, were reduced to acceptable levels[32].

The matrix is constructed to represent consequence on one axis and probability on the other. The risk levels assigned to the cells of the matrix are determined by multiplying the quantitative values defined in the probability and consequence scales. This matrix can be arranged to place extra emphasis on consequence or probability, or it can be symmetrical depending on the application (Table 1). Risk levels can be linked to decision criteria such as levels of management attention or the need for intervention. This matrix can be used to identify which risks need to be more closely monitored in which situations. In this way, the management or implementation team can use the matrix as a guiding tool to identify which areas need more attention or resources[38].

Table 1. Risk assessment scales and decision matrix[32]

Consequence Scale

	Consequence	Rating
1	Should be Considered	No loss of working hours
2	Significant	No lost workdays
3	Serious	Minor injury
4	Very Serious	Death, Limb loss
5	Catastrophe	Multiple deaths

Probability Scale

	Probability	Rating
1	Remote	Once a year
2	Rare	Within 3 months
3	Unlikely	Within months
4	Possible	Weeks to month
5	Likely	Days to week

Risk assessment decision matrix

Probability \ Consequence	1	2	3	4	5
1	1 Very Low Risk	2 Low Risk	3 Low Risk	4 Low Risk	5 Low Risk
2	2 Low Risk	4 Low Risk	6 Low Risk	8 Significant Risk	10 Significant Risk
3	3 Low Risk	6 Low Risk	9 Significant Risk	12 Significant Risk	15 High Risk
4	4 Low Risk	8 Significant Risk	12 Significant Risk	16 High Risk	20 High Risk
5	5 Low Risk	10 Significant Risk	15 High Risk	20 High Risk	25 Very High Risk

When identifying risks, it first identifies the most appropriate outcome for the situation and then determines the probability of those outcomes occurring. The level of risk is determined using a matrix, taking into account the probability and impact of these identified outcomes. Different risk events can have a range of outcomes with varying degrees of probability. Often, small problems can be more widespread than large disasters. Therefore, choices can be made about which consequences to prioritize. Typically, focusing on the most serious and most credible consequences, as these consequences often pose the greatest threat and cause the most concern. In some cases, it may be appropriate to rank both common problems and unexpected disasters as separate risks[29]. It is important to use the probability associated with the selected outcome, not the probability of the event as a whole. The level of risk determined by the matrix can be linked to a decision rule on how to handle the risk.

RESULTS AND DISCUSSION

The work site considered in the study includes a vehicle fuel filling area, administrative building, tire and lubrication service, automotive service area, tanks area, car wash area and parking lot. In the study, high-risk regions and works were considered in turn, and risk situations were determined by assigning probability and consequence values to each. By expressing the standard and legislative requirements for the prevention of risks, the current situation in the tables and the new risk situations after the measures were calculated.

Fuel oil storage tanks used in stations are underground tanks with single or double walled structure, which are registered and approved by filling. Double-walled tanks aim to provide protection in this space in case of a possible leakage by surrounding the inner tank with the outer tank. TS 12820 standard includes safety details such as soil properties, corrosion measures, surrounding soil and stone properties, and covering of underground storage tanks. In the investigation area, the risk of fuel leakage due to the location of the liquid fuel tank and the lack of protection against corrosion after its placement was identified as a risk to be considered (l:2, c:5, r:10) (Table 2). Since this is a common occurrence, it can be eliminated by periodic inspections. In addition, due to the fact that this environment is a region with high vehicle traffic, the usual traffic-related risks (Table 4) should be reduced to acceptable levels.

Areas with underground tanks and filling points at fuel stations should be closed to vehicle traffic and surrounded by protective wire mesh or similar barriers with a minimum height of 100 cm[39]. Failure to ground the tanks to eliminate static electricity accumulation during filling (c:5) as it may cause very serious consequences. Proper grounding and periodic inspection of underground tanks is considered to have a very small probability (l:1) of the expected outcome. The absence of periodic controls of ventilation devices and emergency ventilation system of liquid fuel tanks will result in a very severe (c:5) result, while the accumulation of vapors and gases to be emitted to the environment will show the same level of consequence (c:5) (Table 2). To eliminate these risks, as stated in the standard, ventilation outlets should be located at a height of at least 3.6 meters from the filling pipes, outside the building and in a way to prevent flammable vapor accumulation[39].

While the cleaning of liquid fuel tanks by inexperienced personnel can lead to a severe consequence, the seriousness of the issue (l:1, c:5, r:5) should be taken into account and the risks can be reduced to an acceptable level through procedures (Table 2). Precautions should be taken against the risk of contamination or blockage of these outlets. The risk of explosion (l:3, c:5, r:15) due to exposure of the tank to sparks is an important consequence (Table 2). In order to prevent static electricity risks, tank filling and emptying instructions require the tankers and the tank to be free of static charge and to make connections to balance the static charge between them. Failure to do so will increase the possibility of ignition of explosive gases and leaking fuel vapors. It also includes procedures such as grounding the tank during filling, preventing the entry of customers or unauthorized persons, ensuring that the filling operator is free of static electricity, and checking the breathers frequently during the filling process.

In refueling stations, the use of ignition devices in the vicinity of fuel dispensers can increase the risk of explosion. This implies that the probability of an explosion is somewhat high (l: 3). If an explosion occurs, the consequences can be very serious (c: 5). Therefore, for the safety of fuel customers and employees, control and inspection systems should be continuously implemented. These facilities should be continuously inspected, safety protocols should be strictly enforced and staff should be continuously trained. In addition, clear

rules must be established and strictly followed to prevent the use of ignition devices in these areas. These measures are important to minimize the risk of potential explosions and increase the level of safety in the facilities.

The risk of leakage as a result of fuel hoses decaying over time is a significant hazard (Table 2). To reduce this risk, only dispensers of a specific type and with a specific system approval should be used. Choosing only dispensers with type and system approvals minimizes the risk of leakage of fuel hoses. These approvals include compliance with certain standards and safety measures. In this way, the use of dispensers that comply with specified standards significantly reduces the risk of possible leakage and therefore explosion. These measures are vital to improve safety and minimize environmental risks at fuel stations.

Vehicles crashing into LPG dispensers are among the most common adverse incidents (Table 2). First of all, it is an effective measure to draw yellow barrier lines to mark the approach limits of vehicles to dispensers. These lines indicate the approach limit to drivers and attract their attention, thus helping to prevent accidents. These measures are important to reduce the potential hazards at LPG stations when vehicles collide with dispensers. Attracting the attention of vehicle drivers and protecting them with physical barriers can increase the preventability of such accidents and raise safety standards.

During the filling process, there is a potential hazard of fuel spillage when removing the fuel gun from the vehicle tank (Table 2). Similarly, there is a risk of fuel spillage if the hose is left on the vehicle and subsequently breaks (l: 3, c: 4). During LPG filling, there is a risk (l: 2, c: 4) of personnel inhaling the gas released at the moment of removing the gun. Likewise, there is a low probability of burns (l: 1, c: 4) as a result of the gas coming into contact with the hand and a risk of flames (l: 1, c: 5) as a result of the discharge of static electricity on the worker, but the consequences are quite serious and high impact. The solution to such problems can be achieved through worker training and regular inspections. Employees should be trained in the use of the gun during the filling process and necessary precautions should be taken. In addition, procedures should be established to prevent the hose from being left on the vehicle, and employees should be made aware of this issue on an ongoing basis.

Flammable and explosive vapors suspended in the air, especially when exiting the vehicle, can interact with the air, clothing and vehicle seat upholstery, resulting in electrostatic charges. Most incidents occur in low humidity conditions, so they are more common in cold weather. A significant number of these incidents involve a person getting in and out of the vehicle during the refueling process. The tendency in vehicles to build up a static charge can create a potential as high as 5-8 kV with a person getting in and out of the vehicle. Such a charge can be large enough to generate sparks. For those who are responsible for refueling, the American Petroleum Institute recommends not returning to the vehicle and emphasizes that the static electricity generated by touching the outer metal part of the vehicle should be discharged before exiting the vehicle[22]. In our country, since refueling is provided by personnel on duty, the probability of these conditions occurring is low and the number of incidents is quite low. However, since this event is likely, it should be considered in risk assessment studies and it should be stated that it will cause high severity outcomes.

In the absence of periodic inspections of electrical installations by authorized bodies, although the probability of occupational accidents is low (l:1), the potential consequences indicate a very high level of risk (c:5). Regular annual periodic inspections are vital to maximize safety (Table 3). Unauthorized interventions in electrical panels (l:2, c:5), especially without permanent contracts with authorized persons, increase the potential risk of accidents.

Table 2. Risk assessment of fuel tanks and dispensers

W	***Identified Hazard***	*Risk*	*l*	*c*	*r*	***Preventions***	*l*	*c*	*r*
Fuel Tanks	The accumulation of gas from liquid fuel tanks in certain areas creates an explosive atmosphere.	*ED*	1	5	5	Periodic checks of detectors.	1	5	5
	Visual level checks of liquid fuel tanks.	*ED*	1	5	5	Checking the indicators at certain intervals.	1	5	5
	Lack of periodic controls of ventilation systems of liquid fuel tanks.	*ED*	1	5	5	Periodic checks of the ventilation system.	1	5	5
	Entering liquid fuel tanks without the necessary measurements.	*ED*	1	5	5	Implementation of procedures and instructions.	1	5	5
	Cleaning of liquid fuel tanks by inexperienced personnel.	*ED*	1	5	5	Implementation of procedures and instructions.	1	5	5
	Overfilling liquid fuel tanks beyond their capacity.	*ED*	1	5	5	Each tank should store 300,000 liters in total, with a maximum of 50,000 liters.	1	5	5
	Failure of the normal and emergency ventilation system when filling with liquid fuel oil.	*E*	1	5	5	Periodic controls to be carried out.	1	5	5
	Fuel leakage as a result of failure to protect the liquid fuel tank against corrosion (rusting) after its positioning and placement.	*E*	2	5	10	Tanks are periodically checked once a year and measures are taken against corrosion.	1	5	5
	No grounding to remove static electricity accumulations during filling.	*ED*	1	5	5	Checking that the filling is carried out in accordance with the instructions.	1	5	5
	Explosion due to exposure of the tank to sparks.	*E*	3	5	15	Checking that earthing is done.	1	5	5
	Sniffing the gas released by opening the fuel tank.	*OD*	2	4	8	Training of personnel on the subject.	1	4	4
Dispensers	Leakage due to rotting of fuel hoses.	*EID*	3	5	15	Use of dispensers with type and system approval.	1	4	4
	Explosion due to the use of ignition lighters etc. near dispensers.	*EID*	3	5	15	Necessary controls are made to ensure that customers do not smoke.	1	4	4
	Vehicles hit LPG dispenser.	*EID*	3	5	15	Drawing yellow barrier lines indicating the approach limit of vehicles.	1	4	4
	Fuel spillage as a result of removing the gun from the tank as soon as the filling process is finished	*EID*	3	5	15	Training of employees on the subject.	1	4	4
	Do not continue to handle the gun when it is put into the tank for filling.	*OD*	1	4	4	Training of employees on the subject.	1	4	4
	Dispenser hose rupture due to being left on the vehicle. fuel spillage.	*EID*	3	4	12	Periodic checks should be made.	1	4	4
	Vehicles running over the feet of pump attendants	*I*	2	4	8	Check that shoes are worn.	1	4	4
	LPG filling personnel inhaling the gas released at the moment of removing the gun.	*I*	2	4	8	Training of staff.	1	4	4
	Burns as a result of contact of the gas coming out of the LPG filling personnel's hand at the moment of removing the gun.	*OD*	1	4	4	Supervision of appropriate glove use by staff.	1	4	4
	The static electricity on the pump discharges and creates a flame effect.	*OD*	1	5	5	A copper plate should be grounded and the sieve on the personnel should be discharged.	1	5	5

E: Explode, D: Death, W: Place, l: likelihood, c: consequences, r: Risk value, OD: occupational disease, I: injury

The absence of insulating mats in front of electrical panels (l:2, c:5) is a glaring deficiency that, although it can be remedied with small investments, increases the risk of electrocution in the event of an accident (Table 3). The personal protective equipment to be used by the maintenance team, such as hard hats, shoes, gloves, work clothes, etc., must comply with the relevant standards. This equipment must be insulating and must be kept clean and dry on a regular basis. These measures will help minimize potential risks by raising safety standards in electrical installations.

The presence of open parts in power cables and work carried out without power interruption (l:2, c:5) may bring the risk of electric shock (Table 3). In maintenance, repair and similar interventions, safety measures such as energy isolation, accumulated energy measurement and resetting, grounding, locking and labeling should be taken and necessary markings should be made. The risk of electric shock due to leakage in the electrical installation (l:1, c:5), especially during operation, even if there is no electric current, it is necessary not to ignore situations such as accidental energization, accumulation of static charges or induction voltage from high voltage facilities in the vicinity. At this point, the presence of a residual current relay is of great importance. A dysfunctional lightning rod increases the risk of exposure to lightning (Table 3). All electrical installations such as lightning rods, grounding systems, IP and Exproof rated equipment and residual current relays should be checked periodically by authorized persons. Neglecting earthing measurement and control (l:1, c:5) can lead to potential occupational accidents (Table 3).

Therefore, regular inspections in accordance with relevant standards are of great importance for the safety of electrical installations. Electrical installations, escape route illuminations, emergency illuminations, and fire detection/alarm systems should be planned and implemented in compliance with applicable regulations and standards. The malfunction of lighting fixtures or insufficient illumination in the working environment (l:2, c:4) can increase the risk of accidents. The occurrence of sparks in lighting fixtures (l:1, c:5) can have significant consequences for the operation, especially requiring extra caution in flammable or explosive environments (Table 3). Therefore, only equipment with Exproof specifications should be used in such environments. Exproof equipment, having explosion-proof features, can be safely used in these risky areas. Lighting equipment with Exproof specifications should be documented along with compliance certificates. This is crucial to verify the conformity of the equipment to specific standards and to provide access to documents for inspections when needed. These safety measures will assist businesses in ensuring safety in environments with explosion risks and achieving full compliance with applicable standards.

The depressions that may form around LPG tanks can increase the risk of gas accumulation (l:1, c:5), thereby raising the risk of explosion; therefore, these areas should be continuously monitored (Table 3). Due to the possibility of diesel and gasoline vapors accumulating on the ground and in depressions, fuel stations constructed after TS 12820 standard generally do not have basements. However, if a station with a basement was built before this standard, special measures need to be taken. Considering the potential for the accumulation of flammable vapors and the risk of explosion in basements, special safety precautions should be implemented. In these areas, specific observation points should be designated to monitor fuel vapors, especially in areas where different services are often provided outside the station. If tanks are not protected against corrosion, the likelihood of gas leakage increases (l:1, c:5), and if this goes unnoticed, it may lead to the risk of explosion. Therefore, gas alarm systems should be periodically checked (Table 3). These checks should be considered a crucial

safety measure aimed at providing early warning for potential gas leaks and reducing the likelihood of explosions.

Neglecting grounding during LPG filling does not eliminate the potential explosion risk (l:1, c:5). Conversely, leaving the area around the LPG tank without wire mesh enclosure can increase the risk of potential collisions (l:1, c:5), thereby raising potential accident risks. Therefore, it is crucial for the tanker and equipment to comply with ATEX standards to enhance safety during tank filling. Underground tank lids should be made of special materials designed to prevent sparking. To increase safety during tank filling, a safety disconnect and audible alarm system should be installed. Additionally, automatic cut-off devices should be used, ensuring they do not interfere with the operation of ventilation systems. Dispensers should be mounted on a 20 cm high concrete base and surrounded by a fixed protection at least 50 cm high, protecting the dispenser column and not obstructing airflow, at the entrance and exit directions of the dispenser island. Areas where vehicles for LPG filling will stop should be marked with yellow lines or reflectors, and other vehicles should be kept outside these designated areas. Smoking should be strictly prohibited within the filling station. These measures are of critical importance to maximize safety and prevent potential hazards at LPG filling stations.

The incorrect pressure setting of compressors and malfunctioning safety valves (l:1, c:5) can increase the risk of explosion. Therefore, it is of great importance that these equipments are inspected annually by authorized institutions. These inspections are necessary to minimize potential explosion risks and ensure safe working conditions.

In the filling and emptying processes of tanks (l:3, c:3), it is critical to have experienced and skilled personnel working to prevent falls from tanker tops for cleaning purposes. The use of safety belts and the implementation of necessary safety measures by these personnel are vital to ensure the physical safety of the workers. The use of safety belts by employees is an effective way to reduce the risk of falls and is important in meeting occupational safety standards. In addition, careful adherence to safety procedures in situations involving working at height is essential to prevent accidents and maintain a safe working environment in the workplace. This ensures the minimization of potential risks and the provision of health and safety for the personnel in the workplace.

To minimize the risk of fuel station personnel being exposed to exhaust gases from vehicles (l:2, c:4), it is essential to enhance their training levels, especially regarding this specific hazard. The rapid entry of vehicles into the station must not overlook the risk of accidents (l:3, c:4). Therefore, a sign should be placed at the station entrance, indicating that vehicles should enter at a maximum speed of 10 km/h (Table 4). To prevent accidents (l:2, c:4) that may occur due to the loss of control when vehicles enter the station on slippery surfaces to refuel, regular cleaning of the station floor and the placement of appropriate warning signs at specific points are necessary. Warnings should be provided to station personnel when a vehicle receiving fuel starts moving before the process is complete (l:2, c:4) and when a vehicle that has finished refueling leaves the station in an uncontrolled manner (l:2, c:4).

The failure to engage the handbrake (l:2, c:4) or its forgetfulness by the driver may cause the vehicle to move within the station without control. To minimize this risk, stations built in compliance with standards should ensure that such incidents do not occur, and parking positions should be correctly adjusted. The irregular parking of waiting vehicles within the station (l:2, c:4) should be prevented by designating specific parking areas and installing appropriate warning signs in these areas (Table 4) to prevent accidents resulting from disorderliness.

Table 3. Risk assessment of electricity and various sources

W	*Identified Hazard*	*Risk*	*l*	*c*	*r*	*Preventions*	*l*	*c*	*r*
Electrical installation	Occupational accident as a result of failure to periodically check the electrical installation by authorized institutions.	*I*	1	5	5	Annual periodic controls to be carried out.	1	5	5
	Everyone interfering with the electrical panels.	*ID*	2	5	10	Only the authorized person should be allowed to intervene in the electrical panels.	1	5	5
	Electric shock due to lack of insulating mat in front of electrical panels.	*ID*	2	5	10	Placing insulating mats in front of the panels.	1	5	5
	Electric shock due to the presence of open sections in power cables.	*ID*	2	5	10	Checking the electrical cables and replacing the worn ones.	1	5	5
	Electric shock as a result of working without power cut.	*ID*	2	5	10	Personnel working on the power line must de-energize.	1	5	5
	Electric shock due to possible leakage in the installation.	*ID*	1	5	5	Leakage current role in electrical fuses.	1	5	5
	Exposure to lightning due to a broken lightning rod.	*EID*	1	5	5	Having the lightning rod checked every year.	1	5	5
	Occupational accident as a result of not performing earthing measurement and control.	*ID*	1	5	5	Checking the earthing installation every year.	1	5	5
	Lighting lamps not working.	*ID*	2	4	8	Make sure that the lighting lamps are working properly.	1	4	4
	Explosion caused by sparks from lighting lamps.	*EID*	1	5	5	Lighting lamps and electrical installations must be Exproof.	1	5	5
LPG tank	Explosion as a result of the presence of pits around the tank where gas can accumulate.	*E*	1	5	5	The tank must be constantly checked around the perimeter.	1	5	5
	Gas leakage due to lack of corrosion protection.	*ED*	1	5	5	Measures must be taken against corrosion.	1	5	5
	Failure to recognize gas leaks that may occur-explosion.	*ED*	1	5	5	Gas alarm systems should be periodically checked	1	5	5
	No grounding during filling.	*ED*	1	5	5	Checking that the filling is done in accordance with the filling instructions.	1	5	5
	Not enclosing the LPG tank with a wire fence.	*E*	1	5	5	The wire mesh and gate must be constantly checked.	1	5	5
Comp.	Explosion as a result of malfunction of pressure regulating autom. and safety valve	*ID*	1	5	5	To have an annual control.	1	5	5
	Malfunction of the drain valve. moisture formation due to water accumulation at the bottom of the tank.	*I*	2	3	6	Periodic maintenance.	1	3	3
W. at height	Fall from height due to climbing on the tanker during filling & unloading.	*I*	3	3	9	Experienced and skilled personnel should be on board the tanker.	1	3	3
	Fall as a result of climbing to the upper parts of the pumps for cleaning purposes.	*I*	3	3	9	If climbing above 3 meters, safety belts must be worn.	1	3	3
	Fall as a result of climbing on tanker hatches for maintenance purposes.	*I*	3	3	9	If climbing above 3 meters, safety belts must be worn.	1	3	3

E: Explode, D: Death, W: Place, l: likelihood, c: consequences, r: Risk value, OD: occupational disease, I: injury

This way, maintaining order within the station and ensuring a safe working environment can be achieved.

Effective measures should be taken to minimize the risk of slipping due to wet floors after rainfall throughout the station (l:2, c:3). In this context, directing water accumulations to rain drains and applying non-slip tape on the ground in front of the office to prevent slippery surfaces is necessary. The immediate filling of depressions in the station floor is important to eliminate the risk of falls and hole openings (Table 4). This way, ensuring the safety of employees can prevent potential

accidents. To minimize the risk of night-shift personnel going unnoticed and being hit by a vehicle (l:2, c:4), the use of reflective clothing should be regularly monitored. This increases visibility, preventing potential hazards in advance. Failure to use personal protective equipment during welding processes (l:2, c:3) can pose serious risks. Therefore, care should be taken to use the necessary protective equipment during welding processes. Performing only direct current welding processes in tight, enclosed, and humid spaces ensures compliance with safety standards. Unauthorized individuals conducting maintenance and repair activities (l:2, c:3) and the risk of maintenance and repair personnel touching hot surfaces or getting burned (l:2, c:3) require that all maintenance tasks be performed by authorized personnel (Table 4). Additionally, it is important to ensure that the personal protective equipment used bears the CE marking, ensuring the use of equipment that complies with standards and is reliable.

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Tablo 4. Station overall and maintenance risk assessments

W	*Identified Hazard*	*Risk*	*l*	*c*	*r*	*Preventions*	*l*	*c*	*r*
Station overall	Inhalation of gas from the exhaust of a refueling vehicle.	*OD*	2	4	8	Training of employees on the subject.	1	4	4
	An accident caused by a vehicle entering the station too fast.	*I*	3	4	12	Maximum 10 km. sign at the station entrance.	1	4	4
	A vehicle coming to refuel went out of control on slippery ground.	*I*	2	4	8	Hanging warning signs about the subject at certain points of the station.	1	4	4
	The fueled vehicle moves before the process is finished.	*I*	2	4	8	Staff should be warned to be careful about this issue.	1	4	4
	Accident occurrence as a result of uncontrolled exit of the filled vehicle from the station.	*I*	2	4	8	Placing warning signs at certain points.	1	4	4
	The movement of the vehicle as a result of not pulling the parking brake of the fueled vehicle.	*I*	2	4	8	Staff should warn the driver of the vehicle.	1	4	4
	Accident occurrence due to irregular parking of waiting vehicles inside the station.	*I*	2	4	8	Parking areas should be designated and warning signs should be placed.	1	4	4
	Fall due to slippery wet ground after rain.	*I*	2	3	6	Puddles should be directed to storm drains.	1	3	3
	Slip and fall due to wet floor in front of the office.	*I*	2	3	6	Gluing anti-slip tape on the front of the office.	1	3	3
	Tripping over potholes in the station floor.	*I*	2	3	6	Immediate filling in case of a pit opening.	1	3	3
	Vehicle collision as a result of unrecognized personnel working at night.	*ID*	2	4	8	The use of reflective clothing should be controlled.	1	4	4
Maintenance	Not to use PPE (Personal protective Equipments) during welding works.	*ODI*	2	3	6	To make sure that the PPEs used are CE marked.	1	3	3
	Maintenance and repair personnel touching hot surfaces – burns.	*I*	2	3	6	To make sure that the PPEs used are CE marked.	1	3	3
	Maintenance and repair activities carried out by unauthorized persons.	*I*	2	3	6	Ensuring that all maintenance is carried out by authorized persons.	1	3	3

E: Explode, D: Death, W: Place, l: likelihood, c: consequences, r: Risk value, OD: occupational disease, I: injury

Regarding warehouse organization, it is crucial to take preventive measures against the risk of materials falling due to incorrect stacking (l:2, c:3) and the potential risk of shelves tipping over due to not being secured (l:2, c:3) (Table 5). Regular checks and employee training on this matter are mandatory to minimize these risks and prevent potential accidents. The use of improper handling techniques by employees (l:2, c:4) can lead to ergonomic issues within the warehouse (Table 5). These problems can be addressed through proper training. Therefore, employees should receive detailed training on correct handling techniques and safe work practices. Failure to store chemical

substances properly within the warehouse can lead to potential risks (Table 5). Therefore, thorough knowledge of the storage conditions for chemicals used in the warehouse is essential, and employees should be trained on this matter. The safe storage and use of chemical substances are crucial for both protecting the health of employees and ensuring environmental safety. In this context, measures taken for warehouse organization and safety should be supported by regular training, and employees' knowledge on these matters should be continuously updated. This way, compliance with warehouse safety standards can be ensured, and an effective system can be established to prevent potential accidents.

The lack of adequate equipment to intervene in a fire poses a significant safety risk in workplaces (Table 5). It is crucial that firefighting equipment used in activities involving flammable or explosive atmospheres complies with standards. Regular inspection, control, and maintenance of this equipment should be carried out by experts in the field. In workplaces where there is a risk of fire or explosion, controls for electric motors, thermal starters, circuit breakers, relays, and similar components should be located in fireproof and insulated compartments. The absence of proper training for teams tasked with firefighting is also a serious risk factor (l:2, c:5) (Table 5). Emergency plans in the workplace should not include enclosed spaces that obstruct access to firefighting equipment, which is critical for the effectiveness of emergency plans. The proper type of fire extinguishers (l:2, c:4) with easy accessibility and unobstructed visibility is essential (Table 5). It is important to place appropriate warning signs in the distribution, filling, and ventilation areas to address potential hazards. In fuel stations, 6 kg dry chemical powder fire extinguishers conforming to TS 862-7 EN 3-7 standards, as well as at least 30 kg wheeled fire extinguishers, must be present. Having these extinguishers near the distribution unit island and in specific locations within buildings allows for quick and effective intervention. Additionally, obtaining 30 kg or larger dry chemical powder wheeled fire extinguishers for every 6 distribution units and placing them in designated locations is essential. Regularly inspecting fire extinguishers and marking the inspection dates on the labels will ensure that the equipment remains functional and reliable.

The absence of a comprehensive emergency plan or undefined emergency response teams (l:2, c:5) can lead to confusion among employees and a lack of effective intervention in coping with emergencies. In this context, creating emergency action plans and regularly training personnel are of great importance. In the event of an emergency, it is essential to use systems that not only provide fire suppression and emergency lighting, but also shut down power and fuel flow to the fuel system and provide audible warnings. These systems should operate effectively with electric, hydraulic, or pneumatic valves on the supply and return lines. Station employees should undergo training organized by relevant instructors on health, safety, and firefighting interventions[29]. The goals of the program to be implemented should be determined by determining the training needs. Observations can be made after training to see how overall behavior has changed. However, this should be done after determining the conditions under which it should be done and the required skill levels. Instructions on what to do in emergencies should be prominently displayed in visible areas of the station for easy access by employees. The absence of emergency buttons to stop fuel flow poses a significant risk, and employees entering the wrong areas due to a lack of training (l:2, c:5) can lead to serious risks. Therefore, the establishment and training of emergency response teams are crucial. The absence of intervention teams during an accident (l:2, c:4), the lack of necessary tools and equipment for first aid (l:3, c:3), and the absence of a vehicle for emergencies in the operation (l:1, c:5) also pose risks (Table 5). To minimize these risks, the necessary precautions should be clearly

outlined in a detailed emergency plan. This plan should be effectively communicated to all employees and regularly updated.

Table 5. Fire, warehouse and emergency situations risk assessments

W	*Identified Hazard*	*Risk*	*l*	*c*	*r*	*Preventions*	*l*	*c*	*r*
Warehouse	Dropping of material due to improper stacking in the warehouse.	*I*	2	3	6	Providing training to the employee on the subject.	1	3	3
	Accidents caused by tipping over due to unsecured shelves.	*I*	2	3	6	Continuous control of the shelves.	1	3	3
	Warehouse personnel apply incorrect handling methods.	*IOD*	2	4	8	Providing training to the employee on the subject.	1	4	4
	Accident caused by improper storage of chemical substances.	*I*	1	4	4	Storage conditions of chemicals should be constantly checked.	1	4	4
Fire	Insufficient equipment to respond to a fire that may break out.	*ID*	1	4	4	Checking the fire extinguishers.	1	4	4
	Lack of necessary training of the team to intervene in the fire.	*ID*	2	5	10	Fire response teams have training certificates.	1	5	5
	The fronts of fire extinguishing equipment are closed.	*ID*	1	5	5	Elimination of materials that make it difficult to reach fire extinguishers.	1	5	5
	Lack of suitable extinguishers for possible types of fire, further growth of the fire.	*I*	1	4	4	Appropriate cylinders in appropriate places.	1	4	4
	Failure to carry out periodic checks of fire extinguishers.	*ID*	1	5	5	Periodic checks of fire extinguishers.	1	5	5
	Lack of a water system fire extinguisher in cases where fire extinguishers are insufficient.	*ID*	1	5	5	Regular checks of water system extinguishers.	1	5	5
Emergency	Lack of a plan for what to do in the event of an emergency.	*ID*	2	5	10	The emergency action plan should be posted for all to see.	1	5	5
	Failure to identify emergency teams.	*ID*	2	5	10	Training on emergency situations	1	5	5
	Lack of emergency buttons that cut off the fuel flow.	*ID*	1	5	5	Check that the emergency buttons are working.	1	5	5
	Workers entering the wrong areas in emergency situations.	*ID*	2	5	10	Emergency assembly signage should be posted.	1	5	5
	No personnel to provide first intervention in case of a possible occupational accident.	*I*	2	4	8	Encouraging first aid certification.	1	4	4
	Lack of first aid equipment.	*I*	3	3	9	To eliminate the deficiencies of first aid supplies.	2	3	6
	Lack of transportation for first aid.	*ID*	1	5	5	Having vehicles on standby for emergencies.	1	5	5

E: Explode, D: Death, W: Place, l: likelihood, c: consequences, r: Risk value, OD: occupational disease, I: injury

CONCLUSION

Risk assessment studies should be conducted, especially during the design phase, to achieve effective and satisfactory results. In the operational process, it is possible to anticipate failure scenarios in human behaviors and potential hazards in their processes. This study has considered the role of human behavior in developing hazard scenarios. Risk assessment has been conducted on the probabilities of the identified hazards occurring at gasoline stations. The consequence and probability of each risk have been calculated. Due to the high risk of fire and explosion in the working environment, the study emphasizes the need to take preventive measures against these risks as a priority. Gasoline stations, being complex environments with employees and customers, require the continuity of controls and training. Specifically, measurements of cathodic protection, lightning rods, and grounding should be performed annually by authorized individuals or organizations.

Due to the nature of the fuel station industry, employees often work long hours on a daily basis, typically operating on a shift

system. Shift work is a common working arrangement involving hours outside the traditional 8-hour workday, and this schedule can lead to various adverse outcomes, including health issues such as cancer and cardiovascular diseases[40]. In addition to contributing to a decrease in occupational safety and efficiency, shift work can notably lead to the development of a sense of intense exhaustion among workers.

It is recognized that there are many occupational health and safety risks associated with all activities performed at service stations. These risks can lead to fatalities such as explosion and fire. The matrix method can be chosen to carry out risk assessments for companies because it is simple and applicable. The method to be used and the procedures to be developed should be determined and implemented in advance. The study will contribute to the literature in terms of ensuring that the measures to be taken as a result of the determination of the work and risks at fuel stations comply with the standards and legislation.

REFERENCES

1. Akyüz, İ. (2008). Otomobil Kullanıcılarının Akaryakıt İstasyonu Tercihleri Üzerine Etki Eden Faktörlerin Belirlenmesi ve İstanbul İlinde Bir Pilot Araştırma.Yüksek Lisans Tezi, İstanbul Üniversitesi, Sosyal Bilimler Enstitüsü, İstanbul.

2. Tuncay, H. S. (2014). Yakıt İstasyonları Özelinde Patlayıcı Ortamların Araştırılması ve Patlayıcı Ortamlarda İş Sağlığı ve Güvenliği Rehberinin Hazırlanması. Uzmanlık Tezi, Ç. S. G Bakanlığı, Ankara.

3. Türkiye İstatistik Kurumu. (2022). "Motorlu Kara Taşıtları". Accessed Address: https://data.tuik.gov.tr/Bulten/Index?p=Motorlu-Kara-Tasitlari-Ocak-2022-45704#:~:text=Ocak (Accessed Date: 10.12.2023).

4. Enerji Piyasası Düzenleme Kurulu. (2022). "Petrol Piyasası Sektör Raporu". Erişim adresi: https://www.epdk.gov.tr/Detay/Icerik/3-0-104/petrolaylik-sektor-raporu (Accessed Date: 12.12.2023)

5. Petrol Sanayi ve Emobilite Derneği. (2022). "2022 Sektör Raporu". Erişim adresi: https://www.petder.org.tr/tr-TR/atik-motor-yagi-faaliyet-raporlari/627767 (Accessed Date: 17.12.2023).

6. Enerji Günlüğü. (2022). "Akaryakıt Bayisi Sayısı Son Çeyrekte 118 Adet Azaldı". Erişim adresi: https://www.enerjigunlugu.net/akaryakit-bayisi-sayisi-son-ceyrekte-118-adet-azaldi-52212h.htm#:~:text=Enerji (Accessed Date: 15.01.2024).

7. Ahmed, M. M, Kutty, S. R. M, Shariff, A. M. and Khamidi, M. F. (2011). "Petrol fuel station safety and risk assessment framework". 19-20 September 2011, In 2011 National Postgraduate Conference (1-8). Malaysia/Perak.

8. Bureau of Labor Statistics. (2022). "Workforce Statistics". Erişim adresi: https://www.bls.gov/iag/tgs/iag 447.htm (Accessed Date: 20.01.2024).

9. Park, K, Mannan, M. S, Jo, Y. D, Kim, J. Y, Keren, N, and Wang, Y. (2006). "Incident analysis of Bucheon LPG filling station pool fire and Bleve". Journal of Hazardous Materials, 137 (1), 62-67. https://doi.org/10.1016/j.jhazmat. 2006.01.070

10. The National Fire Protection Association. (2020). "Service or Gas Station Fires". Erişim adresi: https://www.nfpa.org/education-and-research/research/nfpa-research/fire-statistical-reports/service-or-gas-station-fires (Accessed Date: 16.12.2023).

11. Nouri, J, Omidvari, M. and Tehrani, S. M. (2010). "Risk Assessment and Crisis Management in Gas Stations". Int. J. Environ. Res, 4 (1), 143-152.

12. Wibowo, A, Lestari, F. and Modjo, R. (2023). "Safety Climate Assessment in Fuel Stations in the West Java Region". Safety, 9(1), 1-9. https://doi.org/10.3390/safety90100 09

13. Yin, Y, Tan, X. and Fan, J. (2023). "Occupational Fatigue and Health of Gas Station Workers: A Review". Work. 76 (2), 1-20.

14. Yılmazer, T. (2006). Kurşunlu Benzin Kullanımına Uygun Motorların Kurşunsuz Benzinle Çalıştırılması Halinde Ortaya Çıkan Problemlerin İncelenmesi. Yüksek Lisans Tezi, Fırat Üniversitesi, Fen Bilimleri Enstitüsü, Elazığ.

15. Akdemir, N. (2012). Benzin İstasyonlarında Çalışan Pompacılarda DNA Hasarının Araştırılması. Yüksek Lisans Tezi, Marmara Universitesi, Sağlık Bilimleri Enstitüsü, İstanbul.

16. Alshathly, M. R. and Alqahtani, M. A. (2017). "Ameliorating Effect of Achillea Fragrantissima against Benzene-Induced Skin Irritation: Histological Study". Adv. Pharm. Ethnomed, 5 (1), 1-7. http://dx.doi.org/10.17582/journal.ape/2017/5.1.1.7

17. Akboğa Kale, Ö, Gürcanlı, G. and Baradan, S. (2017). "Asbestos Exposure and Prevention Methods in Urban Renewal Process". Pamukkale Unıversıty Journal of Engıneerıng Scıences-Pamukkale Üniversıtesi Mühendislik Bilimleri Dergisi, 23 (6), 694-706.

18. Epik, Ş. (2006). Akaryakıt İstasyonunda İş Sağlığı, Emniyeti ve Çevre Yönetim Sisteminin Uygulanması. Doktora Tezi, İstanbul Teknik Üniversitesi, Fen Bilimleri Enstitüsü, İstanbul.

19. Chaiklieng, S, Dacherngkhao, T, Suggaravetsiri, P. and Pruktharathikul, V. (2020). "Fire Risk Assessment in Fire Hazardous Zones of Gasoline Stations". Journal of occupational health, 62 (1), 1-8. https://doi.org/10.1002/1348-9585.12137

20. Ekpenyong, C. E. and Asuquo, A. E. (2017). "Recent Advances In Occupational and Environmental Health Hazards of Workers Exposed to Gasoline Compounds". International Journal of Occupational Medicine and Environmental Health, 30 (1), 1-26. https://doi.org/10.13075/ijomeh.1896.00 800

21. Fjellgaard M. R, Saeter B. A, Meraner, C. and Stolen, R. (2021). "From petrol station to multifuel energy station: Changes in fire and explosion safety". RISE Research Institutes of Sweden, 1, 1-65.

22. Babrauskas, V. (2005). "Some Basic Facts about Ignition Events during Fueling of Motor Vehicles at Filling Stations". California Fire/Arson Investigator, 16-25.

23. Nabours, R. E. (2004). "Static Discharge Hazard during Refueling at Retail Gasoline Stations". IEEE Transactions on Industry Applications, 40 (4), 1003-1005. https://doi.org/10.1109/TIA.2004.830755

24. Mohsin, M, Yin, H, Huang, W, Zhang, S, Zhang, L. and Mehak, A. (2022). "Evaluation of Occupational Health Risk Management and Performance in China: A Case Study of Gas Station Workers". International Journal of Environmental Research and Public Health, 19 (7), 1-22. https://doi.org/1 0.3390/ijerph1907 3762

25. Elsayed, A, Ahmed, H. and Mohamed, H. (2018). "Occupational Hazards among Gas Station Workers". Egyptian Journal of Health Care, 9 (4), 443-463. https://doi.org/10.21608/ejhc.2018.198490

26. Cezar-Vaz, M. R, Rocha, L. P, Bonow, C. A, Da Silva, M. R. S, Vaz, J. C. and Cardoso, L. S. (2012). "Risk perception and occupational accidents: a study of gas station workers in Southern Brazil". International journal of environmental research and public health, 9 (7), 2362-2377. https://doi.org/10. 3390/ijerph9072362

27. Chaiklieng, S, Suggaravetsiri, P. and Autrup, H. (2019). "Risk assessment on benzene exposure among gasoline station workers". International journal of environmental research and public health, 16 (14), 1-9. https://doi.org/10.3390/ijerph16142545

28. Alban Perez, G. G, Pando Moreno, M, Laca Arocena, F, Colunga Rodríguez, C, Verdesoto Galeas, A. M, Sarabia Lopez, L. E. and Leon Navarrete, M. M. (2017). "Psychosocial Factors at Work and Occupational Stress in Gas Station Attendants in Ecuador". Scientific Research, 8 (13), 1-11.

29. Ashour, Ü. (2020). Bir Akaryakıt ve LPG Istasyonu için Risk Değerlendirmesi ve Analizi. Doktora Tezi, İstanbul Rumeli Üniversitesi, Fen Bilimleri Enstitüsü, İstanbul.

30. Kök, O. E, Erdoğan, Y. ve Babaoğlu, S. (2018). "Bir Akaryakıt İstasyonunun Risk Analizinin Yapılması ve İş Güvenliği Açısından Değerlendirilmesi". Sürdürülebilir Mühendislik Uygulamaları ve Teknolojik Gelişmeler Dergisi, 1 (2), 80-102.

31. Akpınar, T. ve Çakmakkaya, B. Y. (2014). "İş Sağlığı ve Güvenliği Açısından İşverenlerin Risk Değerlendirme Yükümlülüğü". Çalışma ve Toplum, 1 (40), 273-304.

32. Özkiliç, Ö. (2005). "İş Sağliği ve Güvenliği, Yönetim Sistemleri ve Risk Değerlendirme Metodolojileri". Ankara, TİSK Yayınları.

33. Ceylan, H. ve Başhelvacı, V. S. (2011). "Risk Değerlendirme Tablosu Yöntemi ile Risk Analizi: Bir Uygulama". International Journal of Engineering Research and Development, 3 (2), 25-33.

34. Erten, B. ve Zafer, U. (2017). "İlaç Lojistik Sektöründe Risk Analizi Yapılarak 5x5 Matris, Fine Kinney ve FMEA Yöntemleri ile Risk Değerlendirmelerinin Karşılaştırılması: Bir Firma Örneği". Anadolu Bil Meslek Yüksekokulu Dergisi, 12 (48), 1-14.

35. Kantarcı, O. (2023). "Bir Asfaltit Açık Ocağında Patlatma İşlemlerinin İş Sağlığı ve Güvenliği Açısından Farklı Risk Değerlendirme Metotlarıyla Değerlendirilmesi". MT Bilimsel, (24), 1-11.

36. Caner Akın, G, Eren, Ö, Oral, H. V. ve Heperkan, H. A. (2020). "Yeni Bir Risk Değerlendirme Yöntemiyle Tersane İşletmelerinin Sınıflandırılması". Business and Management Studies: An International Journal, 8 (1), 232-254. http://dx.doi.org/10.15295/bmij.v8i1.1349

37. Oliveira, M. D, Lopes, D. F. and Bana E Costa, C. A. (2018). "Improving Occupational Health and Safety Risk Evaluation through Decision Analysis. International Transactions in Operational Research", 25 (1), 375-403. https://doi.org/10.1111/itor.12339

38. Risk Management Risk Assessment Techniques. 31010. (2009). ISO, International Electrotechnical Commission, 09/10/2009.

39. Akaryakıt İstasyonları-Emniyet Gerekleri ile İlgili Tebliğ TS 12820. (2012). Resmî Gazete 11/08/2012, 28350.

40. Itani, O. and Kaneita, Y. (2016). "The association between shift work and health: A review". Sleep and Biological Rhythms, 14, 231-239.

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Türkiye'de Yayımlanan Bazı Çocuk Çizgi Filmlerinde Yer Alan Beslenme İlişkili Faktörler, Obezojenik Davranışlar ve Vücut Ağırlığına Dayalı Damgalama

Nutritional Factors, Obesogenic Behaviors, And Body Weight-Based Stigmatization in Certain Children's Cartoons Broadcasted in Türkiye

Dilek ÖZÇELİK ERSÜ[1], Melisa ŞAHİNER[2]

ÖZ

Bu çalışmanın amacı çizgi filmlerde bulunan beslenme ilişkili faktörleri, obezojenik davranışları ve vücut ağırlığına dayalı damgalamayı belirlemektir. Araştırma evrenini Televizyon İzleme Araştırmaları Komitesi 2023 verilerine göre çocuk kanalları içerisinde en çok izlenen Türkiye Radyo Televizyon Kurumu (TRT) Çocuk kanalı oluşturmaktadır. Araştırmanın örneklemi, olasılıksız örnekleme yöntemlerinden amaçlı örnekleme yöntemi kullanılarak seçilmiştir. Örneklem belirlenirken çizgi filmlerin 2023 yılında yayımlanmış olması ve ana karakterleri içerisinde şişman karakter bulunmasına dikkat edilmiştir. Buna göre TRT Çocuk kanalında yayımlanan 3 çizgi film (Rafadan Tayfa, Pırıl ve Z Takımı) ve bunların TRT Çocuk kanalı internet sayfasında yayımlanan tüm bölümleri (toplam 121 bölüm) çalışmaya dâhil edilmiştir. Bu nitel çalışmada, veriler içerik analizi yöntemi ile değerlendirilmiştir. Çizgi filmlerde hem olumlu (sağlıklı besin tüketimi ve kahvaltı yapma) hem de olumsuz beslenme davranışları (hızlı ve ekmek arası besin tüketimi ve sağlıksız besinlere yönelme) gösterilmiştir. Çizgi filmler arasında telefon/tablet/bilgisayar kullanımı ile olumsuz fiziksel aktivite tasvirine ilişkin sahneler açısından anlamlı farklılıklar gösterilmiştir ($p<0.05$). Rafadan Tayfa isimli çizgi filmde obez erkek karakterin (Hayri) sürekli yemek yemeyi düşünmesine ilişkin damgalamaya ait bulguların sıklığı daha yüksekken, Z Takımı'nda vücut ağırlığına dayalı damgalama/alay etme sıklığı daha yüksek olarak bulunmuştur. Bu çalışmada çizgi filmlerin çocukların sağlıklı yaşam biçimlerini destekleyici ve olumlu beden algısını pekiştirici şekilde tasarlanmasının önemi vurgulanmaktadır. Bu bulgular, çocuklara yönelik medya içeriklerinin daha sorumlu bir şekilde tasarlanması gerektiğine işaret etmektedir.

Anahtar Kelimeler: Çizgi Film, Beslenme, Obezite, Vücut Ağırlığına Dayalı Damgalama

ABSTRACT

This study aims to examine nutrition-related factors, obesogenic behaviors, and body weight-based stigmatization present in cartoons. The research universe consists of the TRT Kids channel, which is the most watched among the children's channels according to the Television Viewing Research Committee's 2023 data. The study sample was selected using purposive sampling, which is a non-probability sampling method. When determining the sample size, it was ensured that the cartoons were broadcast in 2023 and included obese characters as the main characters. As a result, three cartoons broadcast on the TRT Kids channel (Rafadan Tayfa, Pırıl, and Z Team) and all their episodes published on the TRT Kids channel website (a total of 121 episodes) were included in the study. For this qualitative study, data was analysed using the content analysis method. Both positive (consumption of healthy foods and having breakfast) and negative eating behaviors (consumption of fast foods and sandwiches, and orientation towards unhealthy foods) were depicted in the cartoons. Significant differences were found between cartoons in scenes related to the use of phones/tablets/computers and the depiction of negative physical activity ($p<0.05$). In the cartoon "Rafadan Tayfa", the frequency of stigma related findings concerning the obese male character (Hayri) constantly thinking about eating was higher, while in "Z Team", the frequency of stigma/ridicule based on body weight was found to be higher. This study highlights the importance of designing cartoons in a way that supports healthy lifestyles and reinforces positive body image for children. The findings indicate that media content for children needs to be designed more responsibly.

Keywords: Cartoon, Nutrition, Obesity, Weight Stigma

[1]Dr. Öğr. Üyesi, Dilek ÖZÇELİK ERSÜ, Beslenme ve Diyetetik, İstanbul Arel Üniversitesi Beslenme ve Diyetetik Bölümü, dytdilekozcelik@gmail.com, ORCID: 0000-0002-0247-5347
[2]Diyetisyen, Melisa ŞAHİNER, Beslenme ve Diyetetik, Op Dr. Ceyhun Erdem Obezite Cerrahi Kliniği, Beslenme ve Diyet Birimi, melisasahiner@hotmail.com, ORCID: 0009-0005-5816-140X

İletişim / Corresponding Author: Dilek ÖZÇELİK ERSÜ
e-posta/e-mail: dytdilekozcelik@gmail.com

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GİRİŞ

Teknolojinin hızlı evrimi, telefon, tablet ve televizyon gibi cihazların kullanımının artmasına neden olmuştur. Günümüzde bu cihazlar aracılığı ile çocukların öğrendikleri ve uyguladıkları bilgilerin miktarı artmıştır.[1, 2] Radyo Televizyon Üst Kurulu tarafından 2018 yılında yapılan bir çalışmada, çocukların %11.2'si düzenli olarak çizgi film/çocuk programı izlemektedir.[3] Çizgi filmler, görsel ve işitsel uyaranları bir arada sunarak, çocukları kolaylıkla etkileyebilmektedir.[1, 2] İyi hazırlanmış çizgi filmler çocuğun sosyalleşmesine ve olumlu davranışlar kazanmasına katkıda bulunabileceği gibi eğitimsel açıdan yetersiz olanlar çocukların sağlık, beden algısı, beslenme ve fiziksel aktivite ile ilgili tutum ve davranışlarını olumsuz yönde etkileyebilir.[2, 4] Ayrıca uzun süre televizyona maruz kalan çocuklarda hareketsizliğe bağlı olarak obezite, odaklanamama ve saldırgan davranışlar görülebilmektedir.[1]

Dünya Sağlık Örgütü Avrupa Çocukluk Çağı Obezite Gözetim Girişimi çalışması (COSI) sonuçlarına göre, Avrupa Bölgesi'nde bulunan ilkokul çağındaki çocukların %29 'u (her üç çocuktan biri) fazla kilolu veya obez olarak yaşamaktadır.[5] Ülkemizde ise, İlkokul 2. sınıf öğrencisi çocukların %9,9'u şişman ve %14,6'sı fazla kiloludur.[6] Çocukluk çağı obezitesindeki artış, değişen çevre ve yeme tercihleri ile yetersiz fiziksel aktivite ve ekran maruziyeti gibi birçok faktörle ilişkilendirilmektedir. Çocuklar her gün 1-2 saatini televizyon karşısında geçirmektedir.[2] Özellikle obezite ile medya kullanımı arasında açık bir ilişki bulunmaktadır. Yani ekran başında daha fazla zaman geçiren çocukların beden kütle indeksi daha yüksektir. Bu yaygın halk sağlığı sorunu, çocukları etkileyen ve yetişkinlik dönemine uzanan ciddi fiziksel ve psikolojik sağlık sonuçlarıyla ilişkilidir.[4]

Çocuklar, çizgi filmleri izlerken birçok obezojenik ve damgalama içerikli mesajlarla karşılaşmaktadır. Çizgi filmlerde bulunan obezojenik mesajlar, bazen sağlıklı besinlerin olumsuz bir şekilde tasvir edilmesi, besin değeri düşük yiyecek ve içeceklerin sıklıkla gösterilmesi veya çizgi film karakterlerinin uzun süreli ekrana maruz kalması ve egzersizden kaçınması şeklinde sergilenmiş olabilir.[4, 7] Vücut ağırlığına dayalı damgalama, kişinin vücut ağırlığı veya fiziksel görünümü nedeniyle ayrımcılığa veya olumsuz önyargılara tabi tutulması anlamına gelir. Yaygın olarak kullanılan kalıp yargılar daha büyük bedenli kişilerin tembel, zeki olmayan ve irade gücü eksik olarak gösterilmesini içerir. Bu tür damgalama içerikli mesajlar bireylerin ruh hali, özsaygı, beden imgesi, zihinsel sağlık, yaşam kalitesi ve sağlık davranışları dâhil olmak üzere bir dizi olumsuz etkiye neden olarak bireylerde utanç, intihar eğilimi ve toplumsal izolasyonun artmasına neden olabilir.[8]

Bu çalışmanın amacı çizgi filmlerde bulunan beslenme ilişkili faktörleri, obezojenik davranışları ve vücut ağırlığına dayalı damgalamayı belirlemektir.

Bu bağlamda, aşağıdaki spesifik araştırma soruları ele alınmıştır:

1. Çocuk çizgi filmlerinde sağlıklı ve sağlıksız beslenme davranışları nasıl temsil edilmektedir?
2. Çocuk çizgi filmlerinde obez karakterlerin damgalanma sıklığı ve biçimi nedir?
3. Çocuk çizgi filmlerinde fiziksel aktiviteye yönelik tasvirlerdeki farklılıklar nelerdir?

Bu sorular doğrultusunda, çalışmamızın hipotezleri şunlardır:

1. Çocuk çizgi filmlerinde sağlıksız beslenme davranışları, sağlıklı beslenme davranışlarına göre daha fazla temsil edilmektedir.

2. Obez karakterler çizgi filmlerde sıklıkla negatif damgalamalara maruz kalmaktadır.
3. Çocuk çizgi filmlerinde fiziksel aktiviteye yönelik olumsuz tasvirler belirgin bir şekilde fazladır.

MATERYAL VE METOT

Araştırma Türü

Bu çalışma çizgi filmlerde yer alan beslenme ile ilişkili faktörler, obezojenik davranışlar ve vücut ağırlığına dayalı damgalamayı inceleyen nitel bir çalışmadır. Verilerin analiz edilmesinde içerik analizi yöntemi kullanmıştır. İçerik analizi, belgeler, metinler ve diğer materyaller gibi çeşitli veri kaynaklarını, örnekleme, kodlama ve kategorizasyon gibi yöntemlerle analiz ederek, nesnel, ölçülebilir ve doğrulanabilir bilgilere ulaşmayı hedefleyen bir nitel araştırma tekniğidir.[9]

Araştırmanın Etik Yönü

Bu çalışma tasarımında insan veya hayvan bulunmadığı ve kamuya açık veriler kullanıldığı için etik kurul izni alınmasına gerek yoktur.

Evren, Örneklem Seçimi ve Araştırma Tasarımı

Araştırma evrenini Televizyon İzleme Araştırmaları Komitesi (TİAK) 2023 verilerine göre çocuk kanalları içerisinde 07:00-20:00 saatleri arası en çok izlenen Türkiye Radyo Televizyon Kurumu (TRT) Çocuk kanalı oluşturmaktadır. En çok izlenen üç çocuk çizgi film kanalının 07:00-20:00 saatleri arası 2023 yılına ait kanal reytingleri şu şekildedir; RTG%(SHARE) (reyting): TRT Çocuk 0.47(3.25), Cartoon Network 0.26(1.81) ve Minika Çocuk 0.12(0.85).[10]

Araştırmanın örneklemi, olasılıksız örnekleme yöntemlerinden amaçlı örnekleme yöntemi kullanılarak seçilmiştir. Örneklem belirlenirken çizgi filmlerin 2023 yılında yayımlanmış olması ve ana karakterleri içerisinde şişman karakter bulunmasına dikkat edilmiştir. Buna göre TRT Çocuk kanalında yayımlanan 3 çizgi film (Rafadan Tayfa, Pırıl ve Z Takımı) ve bunların TRT Çocuk kanalı internet sayfasında yayımlanan tüm bölümleri (toplam 121 bölüm) çalışmaya dâhil edilmiştir. TRT Çocuk kanalı internet sayfasında Rafadan Tayfa 'nın toplam 39 bölümü, Pırıl'ın 46 bölümü ve Z Takımı'nın ise 36 bölümü yayımlanmaktadır. Çizgi filmlere ait bölümler tek araştırmacı tarafından izlenmiştir. Rafadan Tayfa 'nın diğer serileri olan Dijital Tayfa, Trafik Tayfa, Ramazan Tayfa çalışmaya dâhil edilmemiştir.

Çizgi filmlerde yer alan beslenme ilişkili faktörler, obezojenik davranışlar ve vücut ağırlığına dayalı damgalamanın belirlenmesi amacıyla araştırmacılar tarafından güncel literatürden yararlanarak hazırlanmış bir kontrol listesi kullanılmıştır.[4, 7, 11] Ayrıca çizgi filmlerde hareketli olma, sokak oyunları, olumlu fiziksel aktivite davranışına yönelik faktörlerde tek başına değerlendirilmiştir. Araştırmacı tarafından izlerken sık karşılaştığı beslenme ile ilişkili faktörleri içeren sahneler, obezojenik davranışlar ve damgalama ilişkili ifadeler de detaylı olarak belirtilmiştir. Çalışmada izlerken dikkat edilen kategoriler ve içerikleri şu şekilde belirlenmiştir;

Beslenme İlişkili Faktörlerin Belirlenmesi

İzlenen çizgi filmlerde tespit edilen beslenme ilişkili faktörler 2 ana başlık altında tanımlanmıştır. Buna göre beslenme ilişkili faktörler 'olumlu beslenme davranışı' ve 'olumsuz beslenme davranışı' olacak şekilde değerlendirilmiştir. Olumlu beslenme davranışı ana başlığı altında çizgi filmlerde tespit edilen, su, sebze-meyve, süt ve ürünleri, et ve ürünleri, kurubaklagil tüketimi, sağlıklı besine karşı olumlu tutum, sağlıksız besine karşı olumsuz tutum, açken yemek yeme davranışı,

kahvaltı, öğle ve akşam öğünlerinin tüketimi, ara öğün tüketimi, aile/arkadaş ile yemek yeme ve sağlıklı besin tüketimi/sağlıklı besine yönelme davranışları değerlendirilmiştir. Olumsuz beslenme davranışı ana başlığı altında ise hızlı/hazır besin tüketimi, çay/kahve/şekerli içecek/gazlı içecek tüketimi, sağlıksız besin tüketimi, sağlıksız besine karşı olumlu tutum, sağlıklı besine karşı olumsuz tutum, aç değilken/duygu durumuna/sosyal ortama bağlı yemek yeme, yalnız/tek başına yemek yeme, az porsiyon/iştahsız yemek yeme davranışları ele alınmıştır.

Obezojenik Davranışın Belirlenmesi

Obezojenik davranışın belirlenmesi amacıyla izlenen çizgi filmlerde ekran karşısında yemek yeme, bilgisayar/tablet/telefon kullanımı, fazla porsiyon veya iştahla yemek yeme, dışarıdan yemek sipariş etme, olumsuz fiziksel aktivite tasviri gibi maddelerin varlığı incelenmiştir.

Vücut Ağırlığına Dayalı Damgalama

İzlenen çizgi filmlerde vücut ağırlığına dayalı damgalama varlığını belirlemek için çizgi filmde obez karakterin sürekli yemek düşünür şekilde tasvir edilmesi, vücut ağırlığına fiziksel özelliklerine ilişkin alay edilmesi/aşağılanması/şaka yapılması gibi faktörlerin varlığı değerlendirilmiştir.

Karakterler

Çizgi filmlerde en çok öne çıkan karakterlerin isimleri şöyledir;

Rafadan Tayfa: Hayri (Obez erkek karakter), Mert, Kamil, Akın, Sevim, Hale (Obez kadın karakter)

Pırıl: Pırıl, Nazlı, Ada, Deha, Efe, Cesur (Obez karakter), Uzay ve Mert

Z Takımı: Arda, Ela, Efe (Obez karakter), Bay B, Vıcık, Gorfi

Araştırmanın Kısıtlılıkları

Araştırma, TRT Çocuk kanalında yayımlanan üç çizgi filmle sınırlıdır ve diğer çocuk kanallarında gösterilen çizgi filmlerin incelenmesini içermemektedir. Çalışma yönteminde içerik analizi kullanılmıştır, bu da subjektif değerlendirmeye neden olabilir olabilir. Çalışmada, çizgi filmlerin çocukların davranışları üzerindeki doğrudan etkileri ölçülmemiştir. Yalnızca potansiyel etkileri değerlendirmiştir.

BULGULAR VE TARTIŞMA

Çalışmadan elde edilen bulgular aşağıda özetlenmiştir.

Çizgi filmlerin bölüm sürelerinin dakika cinsinden ortalama, standart sapma ve minimum-maksimum değerleri Tablo 1'de gösterilmiştir.

Tablo 1: Çizgi filmlerin bölüm sürelerinin ortalama, standart sapma ve minimum-maksimum değerleri

Çizgi film adı	Bölüm Sayısı	Ortalama (dk)	Standart Sapma	Minimum (dk)	Maksimum (dk)
Pırıl	46	13,3	1,6	11,1	16,4
Rafadan Tayfa	39	14,6	1,1	13,0	16,5
Z Takımı	36	11,9	0,6	10,5	13,1

Tablo 2'de izlenen çizgi filmlerde yer alan olumlu ve olumsuz beslenme davranışı, obezojenik davranış/obezojenik çevre ve damgalamaya ilişkin faktörlerin dağılımı gösterilmektedir. Buna göre, çizgi filmler arasında olumlu beslenme davranışı kategorisinde süt ve ürünleri tüketimi, ana öğünlerin tüketimi, aile/arkadaş ile yemek yeme ve sağlıklı besine yönelme konularında çizgi filmler arasında anlamlı

farklılıklar bulunmuştur (p<0.05). Çizgi filmler arasında olumsuz beslenme davranışına örnek teşkil edebilecek (çocukların çay/kahve tüketimi, sağlıksız besin tüketimi/sağlıksız besine yönelim) bazı sahneler açısından da istatistiksel olarak anlamlı farklılıklar tespit edilmiştir (p<0.05). Özellikle "Pırıl" adlı çizgi filmde, bu maddelere ilişkin sahne sayısının diğerlerine kıyasla daha yüksek olduğu belirlenmiştir (p<0.05). Ayrıca çizgi filmler arasında obezojenik davranış/obezojenik çevre kategorisinde telefon/tablet/bilgisayar kullanımı ile olumsuz fiziksel aktivite tasvirine ilişkin sahneler açısından anlamlı farklılıklar gösterilmiştir (p<0.05). Rafadan Tayfa isimli çizgi filmde obez erkek karakterin (Hayri) sürekli yemek yemeyi düşünmesine ilişkin damgalamaya ait bulguların sıklığı daha yüksekken, Z Takımı'nda vücut ağırlığına dayalı damgalama/alay etme sıklığı daha yüksek olarak bulunmuştur. Pırıl isimli çizgi filmde hareketli olma/olumlu fiziksel aktivite/sokak oyunları'na ilişkin bulguların sıklığı diğerlerinden anlamlı derecede daha yüksek olarak görülmüştür (p<0.05).

Tablo 2: İzlenen çizgi filmlerde yer alan olumlu ve olumsuz beslenme davranışı, obezojenik davranış/obezojenik çevre ve damgalamaya ilişkin faktörlerin dağılımı

		Rafadan Tayfa[a]		Pırıl[b]		Z Takımı[c]		Toplam		χ^{2*}	p
		s	%	s	%	s	%	s	%		
Olumlu Beslenme Davranışı	Su tüketimi	5	31,3	4	25	7	44	16	100	2,042	0,36
	Sebze-meyve tüketimi	7	22,6	13	41,9	11	36	31	100	1,833	0,4
	Süt ve ürünleri tüketimi	1[a]	6,3	15[b]	93,8	0[a]	0	16	100	24,412	**<0,001**
	Et ve ürünleri tüketimi	6	46,2	6	46,2	1	7,7	13	100	3,512	0,173
	Sağlıklı besine karşı olumlu tutum	5	55,6	4	44,4	0	0	9	100	4,64	0,098
	Sağlıksız besine karşı olumsuz tutum	0	0	3	75	1	25	4	100	2,853	0,24
	Açken yemek yeme	3	21,4	8	57,1	3	21	14	100	2,465	0,292
	Kahvaltı tüketimi	1[a]	5,9	14[b]	82,4	2[a]	12	17	100	16,638	**<0,001**
	Öğle-akşam öğün tüketimi	1[a]	11,1	7[a]	77,8	1[a]	11	9	100	6,525	**0,038**
	Ara öğün tüketimi	0	0	2	100	0	0	2	100	3,316	0,191
	Aile/arkadaş ile yemek yeme	7[a]	20	21[b]	60	7[a]	20	35	100	10,12	**0,006**
	Sağlıklı besin tüketimi/sağlıklı besine yönelme	6[a]	20,7	20[b]	69	3[a]	10	29	100	16,015	**<0,001**
Olumsuz Beslenme Davranışı	Hızlı/hazır besin tüketimi	5	33,3	4	26,7	6	40	15	100	1,191	0,551
	Çay/kahve tüketimi	5[a]	17,9	16[a]	57,1	7[a]	25	28	100	6,117	**0,047**
	Şekerli içecek tüketimi	5	41,7	4	33,3	3	25	12	100	0,546	0,761
	Sağlıksız besin tüketimi/sağlıksız besine yönelme	14[a]	22,2	31[b]	49,2	18[a,b]	29	63	100	8,476	**0,014**
	Sağlıklı besine karşı olumsuz tutum	1	50	0	0	1	50	2	100	1,253	0,535
	Aç değilken/sosyal ortamda yemek yeme-atıştırma	3	23,1	4	30,8	6	46	13	100	1,897	0,387
	Yalnız/tek başına yemek yeme	1	100	0	0	0	0	1	100	2,12	0,346
	Az porsiyon/iştahsız yemek yeme	0	0	2	66,7	1	33	3	100	1,669	0,434
	Sağlıksız besine karşı olumlu tutum	7	35	9	45	4	20	20	100	1,13	0,568
Obezojenik Davranış/ Obezojenik Çevre	Ekran karşısında yemek yeme	1	33,3	1	33,3	1	33	3	100	0,032	0,984
	Bilgisayar/telefon/tablet vb. kullanımı	1[a]	2,6	9[b]	23,7	28[c]	74	38	100	53,989	**<0,001**
	Fazla porsiyon/iştahla yemek yeme	8	30,8	12	46,2	6	23	26	100	1,095	0,578
	Dışarıdan yemek sipariş etme	0	0	1	50	1	50	2	100	1,013	0,603
	Olumsuz fiziksel aktivite tasviri	1	12,5	0	0	7	88	8	100	13,893	**0,001**
Damgalama	Obez karakterin sürekli yemek düşünmesi/yemek istemesi/çevresi tarafından yemek istediği düşüncesi	28[a]	50	21[b]	37,5	7[c]	13	56	100	20,647	**<0,001**
	Vücut ağırlığı dayalı damgalama/alay etme	1[a]	6,7	4[a,b]	26,7	10[b]	67	15	100	11,895	**0,003**
Diğer	Hareketli olma/olumlu fiziksel aktivite/sokak oyunları	27[a,b]	32,5	39[b]	47	17[a]	21	83	100	13,236	**0,001**

[a, b, c] Çoklu karşılaştırmalar için Bonferroni testi; [a]Rafadan Tayfa, [b]Pırıl, [c]Z takımı
*Ki-kare

Tablo 3'te çizgi filmlerde rastlanılan bazı ifadelere ilişkin yorum ve gözlemlere yer verilmiştir.

Rafadan Tayfa serisinde, Hayri ve Hale kardeşler obez karakterler olarak karşımıza çıkmaktadır. Ancak Hayri karakteri

başkarakter olduğu için çizgi filmde damgalama ile ilgili mesajların bu karakter üzerinden verildiği tespit edilmiştir. Çizgi filmde yer alan diğer karakterler ise normal vücut ağırlığına sahiptir. Çizgi filmin "Köfte Tarifi" bölümünde "ekmek arası köfte" ifadesi hızlı ve hazır besin tüketiminin bir örneği olarak ele alınırken, "ızgara köfte" ifadesi ise sağlıklı beslenme davranışlarını temsil etmektedir. Aynı bölümde Hayri karakterinin yemek düşünerek dans etmesi, obez bireylerin sürekli yemek düşündüğüne dair stereotipik bir algıyı pekiştirerek damgalamaya örnek teşkil etmektedir. "Efe Gibi" bölümünde Hayri'nin aşırı incir tüketimi, fazla porsiyon ve iştahla yeme davranışlarına işaret etmektedir. "Kar Zamanı" bölümündeki “Pekmez? 'bir yudum içen bir daha üşümez.” ifadesi, sağlıklı besinlere karşı olumlu bir tutumu yansıtmaktadır. "Zaman Tüneli" ve "Tulumbacılar" bölümleri ise, obez karakterlerin sürekli yemek düşündüğü veya istediği yönünde damgalayıcı yorumlara sahne olmaktadır.

Pırıl serisinde "Kesirler Karnımızı Doyurdu" bölümünde, Nazlı'nın "çok kalorili" şeklindeki pide yorumu, sağlıklı bir besinin olumsuz olarak değerlendirilmesine örnek olarak sunulmuştur. "Geometrik Cisimler" bölümünde, Cesur'un şekerle ilgili yorumları ve öğretmenin tepkisi, obez karaktere yönelik damgalamayı göstermektedir. "Örüntüler Bir Kuralı Vardır Bunun" bölümünde ise, "Cesur demek, bizim için yemek demektir." ifadesi, obeziteyi yeme alışkanlıklarıyla sınırlayan bir bakış açısını yansıtmaktadır.

Z Takımı serisinde "Hayvanlar Çıldırıyor" bölümünde, Bay B'nin boyunu uzun göstermek için yaptığı davranışlar, dış görünüşle ilgili toplumsal beklentileri ve damgalamayı ele almaktadır. "Bay B'nin Dev Planı" bölümünde ise, Efe'nin kilo alması ve bunun sonucunda yaşadığı içsel çatışma ile diğer karakterlerin ona yönelik yaptığı damgalayıcı yorumlar, obez bireylerin yaşadığı zorlukları gözler önüne sermektedir.

Tablo 3: Çizgi Filmlerde yer alan ifadelere ilişkin yorum ve gözlemler

Çizgi Film	Bölüm Adı	Kategorilere İlişkin İfadeler	Yorumlar/Gözlemler
Rafadan Tayfa	Köfte Tarifi	Kamil bir anda gülmeye başlar. Mert ise niye gülüyorsun diye sorar. Kamil ise gözümün önüne Hayri'nin klasik yemek dansı geldi der. Mert ise bence dansa başlamıştır bile der ve gülerler. Hayri ise "Amanına köfte, canım ızgara köfte. Aman köfte, oh oh ekmek arası köfte." diyerek şarkı söylemeye başlar ve dans eder.	1) Çizgi filmde geçen "ekmek arası köfte" ifadesi olumsuz beslenme davranışlarından "Hızlı/hazır besin tüketimi" maddesiyle ilişkilendirilebilir. Ekmek arası besinler genellikle hızlı yemek olarak kabul edilen ve sağlıksız beslenmeye yol açabilen besinlere bir örnektir. 2) "ızgara köfte" ifadesi ise olumlu beslenme davranışlarından "et ve ürünleri kullanımı" maddesiyle ve köftenin ızgara şeklinde olması, besinin sağlıklı olduğu ile ilişkilendirilebilir. 3) Hayri karakterinin köfteyi düşünerek dans etmesi ve arkadaşlarının bu durum hakkındaki düşünceleri ve söylemleri damgalama kategorisinde "Obez karakterin sürekli yemek düşünmesi/yemek istemesi/çevresi tarafından yemek istediği düşüncesi" maddesine örnek olabilir.
Rafadan Tayfa	Efe Gibi	Hayri çok fazla incir yemiştir ve karnını tutarak " O kadar incir üzerine böyle bir heyecan ayy bana biraz fazla geldi" der ve koşar.	Çizgi filmde geçen fazla incir tüketimi ile ilişkili bu ifade Obezojenik Davranış/Obezojenik Çevre kategorisi içinde "fazla porsiyon/iştahla yemek yeme" maddesi altında değerlendirilebilir.
Rafadan Tayfa	Kar Zamanı	Pekmez? "bir yudum içen bir daha üşümez."	Bu ifade olumlu beslenme davranışı kategorisi altında "sağlıklı besine karşı olumlu tutum" maddesine örnek olabilir.

Tablo 3 devamı-1: Çizgi Filmlerde yer alan ifadelere ilişkin yorum ve gözlemler

Çizgi Film	Bölüm Adı	Kategorilere İlişkin İfadeler	Yorumlar/Gözlemler
Rafadan Tayfa	Zaman Tüneli	Kamil, Hayri'ye "Yemeği andın karnın hemen guruldamaya başladı değil mi?" der.	Kamil'in Hayri'ye söylediği bu ifade damgalama kategorisi altında "Obez karakterin sürekli yemek düşünmesi/yemek istemesi/çevresi tarafından yemek istediği düşüncesi" maddesiyle ilişkilendirilebilir.
Rafadan Tayfa	Tulumbacılar	Mert eline megafonuı alıp "Dikkat sıraya gir. Tulumbacı takımı.." der ve Hayri " Tu-tu-tulumba mı...mmhh şerbeti altın sarısı , üstü çıtır çıtır.." der. Mert ise "İtfaiyecilik haftası kutlamak için önemli bir görev bizi bekliyor." der ve megafonu alıp Hayri'nin yanına geçerek "Yani tulumba derken tulumba tatlısından bahsetmiyorum." diye bağırır.	Damgalama kategorisi açısından, Mert'in megafonla açıklama yaparak Hayri'yi tulumba kelimesini yiyecek sanıp yanlış anlamakla suçlaması, damgalaması veya alay konusu yapması ve "Obez karakterin sürekli yemek düşünmesi/yemek istemesi/çevresi tarafından yemek istediği düşüncesi" maddesiyle ilişkilendirilebilir.
Pırıl	Kesirler karnımızı doyurdu	Nazlı Sınıfa gelen pideye karşı "Pide mi? Ah çok çok kalori" diyerek tepki gösterir.	Nazlı'nın pideye "çok kalorili" diyerek tepki vermesi, pidenin sağlıklı bir tercih olmadığını düşündüğünü gösteriyor. Ancak, pide, karbonhidrat içeren tahıl grubunda yer alan bir besin. Ölçülü miktarda tüketildiği sürece sağlıklı olabilecek bir besinin sağlıksız olarak ifade edilmesi "olumsuz beslenme davranışı" kategorisi içinde "sağlıklı besine karşı olumsuz tutum" şeklinde değerlendirilebilir. Çizgi filmde pidenin enerji içeriği yerine besin ögesi içeriğine ve porsiyon büyüklüğüne bağlı olarak bir değerlendirme yapılması daha uygun olabilir.
Pırıl	Geometrik Cisimler	Pırıl "Küp şekerde bile matematik varmış" der. Cesur ise "Ne? Biri şeker mi dedi?"der. Öğretmen "Sen şeker tarafını duydun demek Cesur. Oysa Pırl küp de demişti." der. Efe ise "Yiyecek bir şeyler olunca tüm alıcıları açılıyor." der.	Bu bölümde geçen ifadelerde obez karakterin sağlıksız bir besine karşı duyduğu heyecanı ve obez karakterin öğretmeni ve arkadaşı tarafından damgalamaya maruz kalmasını görüyoruz. Cesur'un "Biri şeker mi dedi?" tepkisi, obeziteyi sadece yiyecek tüketimiyle ilişkilendirerek stereotipik bir algıyı pekiştirebilir. Öğretmenin "Sen şeker tarafını duydun demek Cesur. Oysa Pırıl küp de demişti." şeklindeki açıklaması, obez karakterin bilgi veya fikirlerinin dikkate alınmadığını ima ederek, damgalayıcı bir söylem içerebilir. Bu durum, obez bireylerin sosyal ilişkilerinde yaşadığı damgalamanın bir örneği olarak görülebilir. Efe'nin "Yiyecek bir şeyler olunca tüm alıcıları açılıyor." ifadesi, obez karakterin besinlere karşı duyduğu isteği vurgular. Ancak, bu ifade aynı zamanda obeziteyi sadece kontrolsüz yeme davranışlarıyla ilişkilendirerek, obez bireylerin sadece bu yönlerinin ön plana çıkarılmasına neden olabilir.
Pırıl	Örüntüler Bir Kuralı Vardır Bunun	Pırıl "Cesur demek, bizim için yemek demektir." der.	"Cesur demek, bizim için yemek demektir." şeklindeki cümlede, obezite ile yemek arasında bir eşanlam ilişkisi kurulması, obeziteyi sadece aşırı yeme veya yeme alışkanlıklarıyla sınırlayan bir bakış açısını yansıtabilir. Bu tür bir ilişkilendirme, obez bireylerin sadece yemek tüketimleriyle tanımlanmasına ve değerlendirilmesine yol açabilir.
Pırıl	Açı Sandalyesi	Cesur, Deha'nın yaptığı icada karşılık " Bir kere de yemekle ilgili bir şey icat etsen ya" der.	Obezite ve beslenmeyle ilgili olumsuz stereotiplerin ve damgalamanın çocuklar arasında nasıl yaygınlaştırılabileceğini göstermektedir. Beslenme alışkanlıkları ve fiziksel görünüşle ilgili yapılan bu tür yargılar, obeziteye sahip bireylerin kendilerini dışlanmış veya değersiz hissetmelerine neden olabilir. Bu nedenle, bu tür ifadelerin bilinçli bir şekilde kullanılması ve çocuklara sağlıklı beslenme alışkanlıkları ve pozitif beden algısı konusunda eğitim verilmesi önemlidir.
Pırıl	Arşimet'in iştahlı arkadaşı	Nazlı, tahterevalli yarışında kazanan Cesur'a karşılık "Sende bu cüsse oldukça hep şampiyonsun Cesur." der	
Pırıl	Ah yönümüzü bir bulabilsek	Nazlı "Keşke arkamızda ekmek parçaları bıraksaydık" der. Cesur ise " Ekmek mi?" der. Nazlı da " Gerçi sen onları yerdin." der.	

Tablo 3 devamı-2: Çizgi Filmlerde yer alan ifadelere ilişkin yorum ve gözlemler

Çizgi Film	Bölüm Adı	Kategorilere İlişkin İfadeler	Yorumlar/Gözlemler
Z Takımı	Hayvanlar çıldırıyor	Bay B boyunu daha uzun göstermek için metal bir kıyafet içine girerek dolaşır. Bu bölümde kıyafetten çıkar ve aslında kısa boylu olduğu görülür. Bay B'nin asistanı Vıcık bunun üzerine "patron aslında çok kısa boylu biriymiş, biz de daha geçen gün öğrendik. ..... Baktığın zaman el kadar bir şey ama inanılmaz bir zekâya sahip. Başka hangi insan boy kompleksi yüzünden diğerlerinin yanında ezilmemek için kendine bir robot beden yapabilir ki. Bizim patron kesinlikle boyundan büyük işlerin adamı. (bu arada Bay B çok kızmıştır). Bu bölümün dışında 7., 11. ve 30. bölümde de boy kısalığı ile ilgili olumsuz söylemler bulunmaktadır.	Çizgi filmin bu sahnesinde vücut özelliklerine ilişkin damgalama yapıldığı görülmektedir. Bay B'nin dış görünüşünü beğenmemesi ve kendisini değiştirmeye çalışması kişinin toplumda kabul görmek ve başkalarının beklentilerini karşılamak için dış görünüşünü değiştirmesi gerektiği şeklinde bir mesaj verebilir. Kısa boy ile ilgili olumsuz mesajlar çizgi filmin başka bölümlerinde de tekrar etmektedir. Zekâ, yetenek ve başarı, fiziksel özelliklerden daha önemli olan faktörlerdir ve insanların kendilerini sadece fiziksel özelliklerine göre değil, yeteneklerine ve başarılarına göre değerlendirmesi önemlidir.
Z Takımı	Bay B'nin dev planı	Efe ayna karşısında kilo almış olduğunu fark ederek güne kötü başlar. Yine bir sahnede Efe, "kahraman Efe'den gülünüp alay edilen bir tombula dönüştüm" der. Fazla kilolarından kurtulmak için giriştiği mücadelede kendini Bay B'nin kötü planlarından birinin tam ortasında bulur. Bir sahnede Gorfi, Efe ile karşılaşır ve Efe'ye "Hoş geldin sevgili etine dolgun, doğru yerdesiniz." ve "hem göbekli hem saf" gibi kullanır. Vıcık, Bay B'ye planlarından bahsederken; "Yeterince tombalak bulabilirsek Z şehrini dehşet ve kaosa sürükleyebilecek bir devcil ordusu kurabiliriz" der. Bölüm sonunda Arda ve Ela Efe'ye davranışlarından ötürü özür dilerler ve anneanneleri ile birlikte ona daha geniş ölçülerde yeni bir kostüm hediye ederler.	Çizgi filmin bu bölümünde de vücut ağırlığına dayalı damgalamaya ilişkin ifadelere sıkça rastlanmaktadır. Efe'nin kilo aldığı için "kahraman Efe'den gülünüp alay edilen bir tombula dönüştüm" diyerek kendisini değersizleştirmesi obez bireylerin bireylerde içsel çatışmaya ve olumsuz benlik algısına neden olabilir. Yine Gorfi'nin Efe için söylediği sözler obez bireylerin yetersiz, değersiz ve güçsüz olduğu düşüncesine neden olabilir. "Tombalak" kelimesi, obeziteyi aşağılayıcı ve damgalayıcı bir şekilde tanımlar. Bu, obez bireyleri sadece fiziksel özellikleriyle tanımlayarak, olumsuz bir stereotipin pekiştirilmesine katkıda bulunur.

Çalışmadan elde edilen bulgular aşağıda tartışılmıştır.

Obez bireyler, vücut ağırlıkları nedeniyle çevrelerinin önyargılı olumsuz tutum ve davranışlarına maruz kalırlar. Bu önyargı, obez bireylerin toplum tarafından dışlanmasına ve vücut ağırlığı temelli ayrımcılığa neden olabilir.[12] Çalışmamızda, izlenen çizgi filmlerde vücut ağırlığı ve boy uzunluğuna ilişkin damgalama ve alay etme ifadelerine fazlaca yer verildiği ve obez karakterlerin sıklıkla yeme eylemi ile bağdaştırıldıkları bulunmuştur. Bu tür bir ilişkilendirme, obez bireylerin sadece yemek tüketimleriyle tanımlanmasına ve değerlendirilmesine yol açarak obez bireyleri sadece bu özelliğiyle tanımlayan dar bir kalıp oluşturabilir. Bu durum, obeziteyi sadece bireyin kontrolü altındaki bir durum olarak görmeye neden olur ve bu bireylerin yaşadığı sosyal, psikolojik ve genetik etmenleri göz ardı edebilir. Bunun sonucunda, obeziteyle mücadelede etkili ve kapsayıcı çözümler geliştirmek yerine, bireyi suçlayıcı bir yaklaşım benimsenmesine neden olabilir.

Kitle iletişim araçlarında yer alan içerikler (özellikle zayıf bireylerin aşırı temsili, vücut ağırlığına yönelik mizahi unsurların kullanımı ve obezitenin etiyolojisi hakkında yanıltıcı bilgilerin sunulması gibi önyargılı yaklaşımlar) bireylerin vücut ağırlığı hakkındaki tutumlarını olumsuz yönde etkileme potansiyeline sahiptir. Bu tür içeriklerin

yaygınlığı, vücut ağırlığına ilişkin damgalanmanın bireylerin psikolojik ve davranışsal tepkileri üzerinde önemli etkilere neden olabilir.[13, 14] İzlenen çizgi filmlerde obez karakterlerin sağlıksız besinlere karşı gösterdikleri aşırı heyecan ve çevreleri tarafından maruz kaldıkları damgalayıcı davranışların, obez bireylerin beslenmesi hakkındaki ön yargıları arttırabileceğini ve olumsuz sosyal etkileşime neden olabileceğini düşünmekteyiz.

Amerikan Tıp Enstitüsü tarafından 2006 yılında yayımlanan bir raporda, 2-11 yaş arası çocukların yiyecek ve içecek tercihleri ve kısa süreli tüketimleri üzerinde televizyon reklamlarının etkisinin olduğunu belirtilmiştir. Ayrıca raporda, çocuklara ve gençlere pazarlanan yiyecek ve içecek ürünlerinin genellikle yüksek enerji, yağ, şeker ve sodyum içerdiği; düşük besin değerine sahip olduğu ve sağlıklı beslenmeyi veya fiziksel aktiviteyi teşvik eden pazarlama mesajlarının nadir olduğu vurgulanmaktadır. Televizyon reklamları ile verilen bu tür mesajların 2-18 yaş arası çocuklar ve gençlerde vücut yağlanması ile ilişkili olduğu da ifade edilmektedir.[15] Başka bir raporda ise, yüksek yağ, şeker ve tuz içeren yiyeceklerin medya aracılığı ile pazarlanmasının, çocukların sağlıklı besin seçimlerini zorlaştırarak obezojenik bir çevre oluşturduğu ve bu durumun çocukların beslenme tercihlerini olumsuz yönde etkilediği belirtilmiştir.[16] Çalışmamızda, olumsuz beslenme davranışına örnek olabilecek bazı sahneler açısından çizgi filmler arasında anlamlı düzeyde farklılıklar bulunmuş olmasına rağmen beslenme alışkanlıklarını pozitif yönde etkileyebilecek sahneler açısından da (süt ve süt ürünleri tüketimi, kahvaltı yapma ve aile ile birlikte yemek yeme) anlamlı farklılıkların yer aldığı görülmektedir. Ek olarak istatistiksel olarak anlamlı düzeyde olumlu beslenme davranışı sahnelerinin sayısı olumsuz beslenme davranışına ilişkin sahnelerin sayısından daha fazla bulunmuştur. Özellikle "Pırıl" adlı çizgi filmde, bu maddelere ilişkin sahne sayısının diğerlerine kıyasla istatistiksel olarak daha yüksek olduğu belirtilmiştir. İzlenen çizgi filmlerin, olumsuz mesajların yanı sıra süt ve süt ürünleri tüketimi, kahvaltı yapma ve aile ile birlikte yemek yeme gibi konularda olumlu mesajlar verdiği düşünülmektedir. Bu bulgular, çizgi filmlerin, çocukların beslenme alışkanlıkları üzerinde hem olumlu hem de olumsuz yönde etki yapabilecek içerikler sunduğunu göstermektedir.

Düşük gelir düzeyine sahip 9-10 yaş arası çocuklar üzerinde bir advergame kullanılarak yapılan bir çalışmada, sağlıklı atıştırmalık tüketen bilgisayar karakterinin olduğu oyunu oynayan çocukların daha sağlıklı atıştırmalıkları tercih etme eğiliminde oldukları belirlenmiştir.[17] Benzer şekilde başka bir çalışmada da, sağlıksız ürünleri tanıtmaya yönelik olan oyunların çocukların yeme davranışını olumsuz etkileyebileceğine vurgu yapılmıştır.[18] Bu çalışmalar göstermiştir ki medya araçları sağlıklı beslenme alışkanlıklarını teşvik etmek için de kullanılabilir. Çalışmamızda da bazı sahnelerde sağlıklı besine karşı olumlu tutum ifade eden davranışlar gösterilmiştir. Rafadan Tayfa isimli çizgi filmin “Kar Zamanı” isimli bölümünde pekmez ile ilgili olan sahne buna örnektir.

Çizgi film karakterlerinin yeme alışkanlıkları ile vücut ağırlıkları arasındaki ilişkiyi inceleyen ve bu karakterlerin fiziksel görünüşleri hakkında verilen mesajları değerlendiren bir çalışmada, karakterlerin vücut ağırlığının tükettikleri besin türü ve miktarıyla ilişkili olduğu gösterilmiştir. Çalışmada, aşırı kilolu karakterlerin genellikle besin değeri düşük yiyeceklerin büyük bir kısmını tükettikleri gözlemlenmiş, zayıf karakterlerin pozitif özelliklerle (fiziksel aktivite ve çekicilik) daha sık ilişkilendirildiği tespit edilmiştir.[19] Çalışmamızda, çizgi filmlerde hem olumlu hem de olumsuz

beslenme davranışlarına yol açabilecek sahnelerin bulunduğunu belirledik. Özellikle obez karakterlerin sıkça yeme eylemiyle ilişkilendirildiği ve damgalayıcı davranışlara maruz kaldığı gözlemlendi. İzlediğimiz çizgi filmlerde, obez karakterler genellikle ekmek arası, hızlı ve atıştırmalık yiyeceklere yöneliyor ve daha sağlıksız beslenme alışkanlıklarına sahipler. Çizgi filmlerin çocuklar üzerinde güçlü bir etkisi olduğunu ve karakterlerin çocukların beslenme alışkanlıkları ve vücut imajı üzerinde önemli bir rol oynayabileceğini düşünüyoruz. Ancak, gözlemlediğimiz kadarıyla, bu karakterlerin beslenme alışkanlıkları ve vücut ağırlıkları çizgi filmlerde kalıplaşmış ve önyargılı bir şekilde temsil edilmektedir. Bu çalışmanın bulguları, çocuklara yönelik içeriklerin daha sorumlu bir şekilde tasarlanması gerektiğine dair önemli ipuçları sunmaktadır.

Çizgi filmlerin yemek kültürünü ve beslenme alışkanlıklarını etkileyebildiği ve toplumsal eğilimleri ve kültürel değerleri şekillendirme gücüne sahip oldukları çeşitli çalışmalarda gösterilmiştir.[20-22] Çalışmada incelenen çizgi film bölümleri, çocuklara yönelik içeriklerde beslenme alışkanlıkları ve obezite ile ilgili temaların nasıl işlendiğine dair önemli gözlemler sunmaktadır. Bu gözlemler, karakterlerin davranışlarının ve diyaloglarının hem olumlu hem de olumsuz beslenme davranışlarını nasıl yansıttığına ve aynı zamanda sosyal damgalamaya nasıl yol açabileceğine dair değerli bilgiler içermektedir.

Bu çalışmanın güçlü yönleri şu şekilde sıralanabilir; çalışmada üç farklı çizgi filmi incelenerek beslenme ilişkili faktörler, obezojenik davranışlar ve vücut ağırlığına dayalı damgalama konularında geniş bir içerik analizi sunulmaktadır. Çalışma, ayrıca obez karakterlerin damgalanmasının sosyal ve psikolojik etkilerine de değinerek konuyu çok boyutlu ele almaktadır. Çalışmanın zayıf yönleri ise şu şekilde sıralanabilir; çalışmada örneklem tek bir çocuk kanalı ile sınırlı kalmaktadır. Ayrıca çalışma çizgi filmlerin çocukların davranışları üzerindeki doğrudan etkilerini ölçmemiş, sadece potansiyel etkileri değerlendirmiştir. Çalışmada subjektif değerlendirme yapıldığı için farklı araştırmacılar aynı içerikleri farklı şekilde yorumlayabilir.

SONUÇ VE ÖNERİLER

Çocuklar için hazırlanan çizgi filmlerin, sağlıklı yaşam biçimlerini destekleyecek, olumsuz yargı ve damgalamayı önleyecek ve olumlu içeriklerde çeşitliliği artıracak şekilde tasarlanması büyük önem taşımaktadır. Bu şekilde iyi tasarlanmış çizgi filmler, çocukların sağlıklı beslenme alışkanlıklarının ve olumlu beden algısının gelişimine katkıda bulunabilir. Bu çalışmanın sonuçları, çizgi film yapımcılarına, ebeveynlere ve eğitimcilere, çocukların gelişimine olumlu katkılarda bulunacak içerikler oluşturma konusunda rehberlik edebilir. Gelecekte yapılacak araştırmalarda, çocukların belirli çizgi filmleri izledikten sonra beslenme tercihleri, fiziksel aktivite alışkanlıkları ve beden algılarında meydana gelen değişiklikleri inceleyen deneysel çalışmalar planlanmalıdır. Ayrıca, çizgi filmlerin uzun vadeli etkilerini değerlendiren uzunlamasına çalışmalar ve farklı ülkelerde yayımlanan çocuk çizgi filmlerinin karşılaştırmalı analizleri gerçekleştirilmelidir. Çocukların çizgi filmler hakkındaki düşüncelerini ve bu içeriklerin onların beslenme alışkanlıkları ve beden algıları üzerindeki etkilerini anlamak için nitel çalışmalara da ihtiyaç vardır. Medya okuryazarlığı programlarının etkinliğini ve ebeveynler ile eğitimcilerin çocukların medya

tüketimindeki rolünü inceleyen araştırmalar da bu alanda önemli katkılar sağlayacaktır.

KAYNAKLAR

1. Gümüş, Ç. ve Adam, H. (2020). Çizgi Filmlerin Okul Öncesi Dönem Çocukları Üzerine Etkisi: Açıkhava Tasarımları. Ulakbilge Sosyal Bilimler Dergisi, 47 (2020 Mart):409-421. https://doi.org/10.7816/ulakbilge-08-47-03
2. Yağlı, A. (2013). Çocuğun Eğitiminde ve Sosyal Gelişiminde Çizgi Filmlerin Rolü: Caıllou ve Pepee Örneği. Turkish Studies (Elektronik), 8(10), 707 - 719.
3. Çocukların yeni medya kullanım alışkanlıkları ve siber zorbalık 2018 araştırması, RTÜK
4. Howard, J.B, Skinner, A.C, Ravanbakht, S.N, Brown, J.D., Perrin, A.J, Steiner, M.J. and Perrin, E.M. (2017). Obesogenic Behavior and Weight-Based Stigma in Popular Children's Movies, 2012 to 2015. Pediatrics, 140(6), e20172126. https://doi.org/10.1542/peds.2017-2126
5. World Health Organization. (2023, March 3). Childhood obesity: Five facts about the WHO European region. Retrieved September 12, 2023, from https://www.who.int/europe/news/item/03-03-2023-childhood-obesity--five-facts-about-the-who-european-region
6. Türkiye Çocukluk Çağı (İlkokul 2. Sınıf Öğrencileri) Şişmanlık Araştırması - COSI-TUR 2016. Sağlık Bakanlığı, Halk Sağlığı Genel Müdürlüğü, Milli Eğitim Bakanlığı, Dünya Sağlık Örgütü Avrupa Bölge Ofisi, Sağlık Bakanlığı Yayın No: 1080, Ankara 2017
7. Horta, P. M., Machado, B. B., & Souza, L. V. (2021). Food content on children movies from 2013 to 2018: taking food processing into account. Jornal de pediatria, 97(3), 342–347. https://doi.org/10.1016/j.jped.2020.06.006
8. Selensky, J.C. and Carels, R.A. (2021). Weight stigma and media: An examination of the effect of advertising campaigns on weight bias, internalized weight bias, self-esteem, body image, and affect. Body image, 36, 95–106. https://doi.org/10.1016/j.bodyim.2020.10.008
9. Metin, O. ve Ünal, Ş. (2022). İçerik Analizi Tekniği: İletişim Bilimlerinde ve Sosyolojide Doktora Tezlerinde Kullanımı. Anadolu Üniversitesi Sosyal Bilimler Dergisi, 22(Özel Sayı 2), 273-294. https://doi.org/10.18037/ausbd.1227356
10. TİAK.Televizyon İzleme Araştırma Şirketi 2022 yılı yıllık reyting raporları. Available at: http://tiak.com.tr/tablolar. Accessed September 19, 2023.
11. Sıpçık, S, Tat, A.N, Günay, O. ve Öztürk A. (2021). Türksat'ta yer alan çocuk kanallarında yayınlanan çizgi filmlerde obezite ile ilgili tutum ve davranışların sıklığı. Turk J Public Health;19(2):157-167.
12. World Health Organization. Weight bias and obesity stigma: considerations for the WHO European Region. 2017. https://www.euro.who.int/en/health-topics/noncommunicable-diseases/obesity/publications/2017/weight-bias-and-obesity-stigma-considerations-for-the-who-european-region-2017.
13. Rubino, F, Puhl, RM, Cummings, DE, et al. Joint international consensus statement for ending stigma of obesity. Nat Med. 2020;26 (4):485–497.
14. Kite, J, Huang, B.H, Laird, Y, Grunseit, A, McGill, B, Williams, K., Bellew, B. and Thomas, M. (2022). Influence and effects of weight stigmatisation in media: A systematic. EClinicalMedicine, 48, 101464. https://doi.org/10.1016/j.eclinm.2022.101464
15. Tıp Enstitüsü (Institute of Medicine - IOM) (2006). Food Marketing to Children and Youth: Threat or Opportunity? Washington DC: The National Academies Press.
16. Tıp Enstitüsü (Institute of Medicine - IOM) (2013). Challenges and Opportunities for Change in Food Marketing to Children and Youth: Workshop Summary. Washington, DC: National Academies Press.
17. Pempek, T.A. and Calvert, S.L. (2009). Tipping the balance: Use of advergames to promote consumption of nutritious foods and beverages by low-income African American Children. Archives of Pediatrics & Adolescent Medicine, 163, 633–637.
18. Harris, J, Speers, S, Schwartz, M. and Brownell, K. (2012). Food company branded advergames on the Internet: Children's exposure and effects on snack consumption. Journal of Children and the Media, 6, 51-56.
19. Tzoutzou, M, Bathrellou, E. ve Matalas, A.L. (2020). Body Weight of Cartoon Characters in Children Series Is Associated to Food Consumption, Attractiveness, and Physical Activity Engagement. International journal of behavioral medicine, 27(6), 707–716. https://doi.org/10.1007/s12529-020-09911-7
20. Erdem, G. (2020). "Maysa ve Bulut" Örneğinde Yemek Kültürü İnşası. Avrasya Dil Eğitimi ve Araştırmaları Dergisi, 4(1), 82-99
21. Çakı, C. (2018). İkinci Dünya Savaşı'ndaki Propaganda Savaşlarında Çizgi Filmin Rolü: Nazi Almanya'sı Ve Amerika Birleşik Devletleri Üzerine İnceleme. İstanbul Ticaret Üniversitesi Halkla İlişkiler ve Reklam Çalışmaları E-Dergisi, 1(2), 51- 63.
22. Onaran, B. (2015). Mutfakta tarih: yemeğin politik serüveni. İstanbul: İletişim Yayınları.

Afet Risk Algısının Afet Gönüllüsü Olma Tutumuyla İlişkisi

The Effect of Disaster Risk Perception on the Attitude of Being a Disaster Volunteer

Salih DOĞRU[1]

ÖZ

Bu çalışmanın amacı, Gümüşhane Üniversitesi öğrencilerinin afet risk algılarının afet gönüllülük tutumuyla ilişkisinin değerlendirilmesidir. Kesitsel tipte tanımlayıcı bir çalışmadır. Veriler çevrimiçi olarak 01 Kasım 2023 – 01 Şubat 2024 tarihleri arasında anket aracılığıyla toplanmıştır. Araştırma evreni, Gümüşhane Üniversitesi 2023-2024 eğitim-öğretim yılında eğitim gören 23.246 öğrenciden oluşmaktadır. Basit rastgele örnekleme yöntemi kullanılmış olup evreni bilinen örneklem hesaplamasına göre örneklem sayısı 378 olarak belirlenmiştir. Veri toplama aracı, sosyodemografik bilgi formu ve üniversite öğrencileri afet risk algısı ölçeği olmak üzere iki bölümden oluşturulmuştur. Yüzdelik ve standart sapma ile sosyodemografik değişkenler tanımlanmıştır. Katılımcıların %70,4'ü kadınlardan oluşmaktadır ve 50,12'si sağlık bilimleri alanında ön lisans ve lisans öğrenimi gören öğrencilerden oluşmaktadır. Ayrıca çalışmaya katılanların %32,7'sinin de 1. sınıf öğrencisi olduğu belirlenmiştir. Veriler normal dağılım gösterdiği için parametrik testler (t-testi, ANOVA) yapılmış olup kullanılan ölçeğin çalışma ile uyumunu tespit etmek için de doğrulayıcı faktör analizi yapılmıştır. Araştırma sonucuna göre afet gönüllüsü olan öğrenci sayısının az olmasına rağmen diğer katılımcılara göre afet risk algılarının daha yüksek olduğu görülmektedir.

Anahtar Kelimeler: Afet, Afet gönüllüsü, Afet risk algısı

ABSTRACT

The aim of this study is to examine the effect of disaster risk perceptions of Gümüşhane University students on their disaster volunteering attitudes. It is a cross-sectional type descriptive study. Data was collected online via survey between 01 November 2023 and 01 February 2024. The research population consists of 23.246 students studying at Gümüşhane University in the 2023-2024 academic year. Simple random sampling method was used and the number of samples was determined as 378 according to the sample calculation with a known population. The data collection tool was composed of two parts: socio-demographic information form and university student's disaster risk perception scale. Sociodemographic variables were defined with percentage and standard deviation. 70.4% of the participants are women and 50.12 of them are associate and undergraduate students in the field of health sciences. It was also determined that 32.7% of the participants in the study were first grade students. Since the data showed normal distribution, parametric tests (t-test, ANOVA) were performed and confirmatory factor analysis was performed to determine the compatibility of the scale used with the study. According to the results of the research, although the number of students who are disaster volunteers is low, their disaster risk perceptions are higher than other participants.

Keywords: Disaster, Disaster volunteer, Disaster risk perception

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[1] Arş. Gör, Salih DOĞRU, Acil Yardım ve Afet Yönetimi, Gümüşhane Üniversitesi Lisansüstü Eğitim Enstitüsü Afet Yönetimi Ana Bilim Dalı, salihdogruakademi@gmail.com, ORCID: 0000-0002-8426-7620

İletişim / Corresponding Author: Salih DOĞRU
e-posta/e-mail: salihdogruakademi@gmail.com

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GİRİŞ

Toplumun bütününü veya bir kısmını etkileyen sosyo-ekonomik ve fiziksel kayıplara sebep olarak, sosyal yaşam ve birey faaliyetlerinin durması veya aksamasına neden olan, maruz kalan topluluğun mukavemetinin yetersiz kaldığı doğa, teknoloji veya insan kaynaklı olaylar sonucu afetler meydana gelmektedir. Kısaca olayın kendisi değil, sebep olduğu sonuç afet olarak nitelendirilmektedir.[1] Türkiye özelinde 2000-2024 yılları içerisinde yaşanan afetler ve etkilerine baktığımızda; 203 adet doğa, teknoloji veya insan kaynaklı afetler yaşandığı görülmektedir. Bu afetler neticesinde 55.201 birey hayatını kaybetmiş olup bunların 50.783'ü 6 Şubat 2023 tarihinde meydana gelen 7,8 büyüklüğündeki depremler sonucu vefat etmiştir. Benzer şekilde bu süreçte 120.283 bireyin yaralandığı, 10.425.721 bireyin etkilendiği ve 10.713.555 kişinin de evsiz kaldığı belirlenmiştir. Yaşanan afetler sonucu meydana gelen kayıp ve hasarların oluşturduğu ekonomik zararların toplamı ise yaklaşık 1.118.947.140.000,00 Türk Lirası olarak belirtilmiştir.[2]

Afetler sonucu yaşanan can ve mal kayıpları ile ekonomik giderlerin azaltılabilmesi, mevcut ve potansiyel risklerin anlaşılabilmesi adına bireysel ve toplumsal olarak afet farkındalığı, afet risk algısı ve dirençliliğin artırılması gerekmektedir.[3] Afet risk algısı; kişilerin ve topluluklar tarafından risklerin benimsenmesi, öznelleştirilmesi ve algılanması şeklinde ifade edilmektedir.[4] Afet risk algısı yüksek olan toplumların afet dirençliliğinin de artacağı düşünüldüğünde katılımcı anlayışın afet yönetimi açısından önemi anlaşılmaktadır. Gelişmiş ülkelerin çoğunda, afet yönetimi süreçleri profesyonel ekiplerin koordinesi içerisinde resmi kuruluşlarla entegre gönüllülerden oluşan ekiplerle yürütülmektedir.[5]

Gönüllü kavramı en sade haliyle kişisel bilgi, tecrübe ve birikimini maddi manevi herhangi bir karşılık beklemeden topluma katkı amacıyla hizmet sağlayan birey ve topluluk olarak ifade edilebilir. Afet gönüllüsü de ihtiyaç duyulan alanlarda afet öncesi, sırası ve sonrasında kamu kurum ve kuruluşları ile sivil toplum kuruluşlarına karşılık beklemeden destek sağlayan birey veya topluluklar olarak tanımlanabilir.[1]

Gönüllülerin kendi kendilerine organize olmaları ve profesyonel müdahale ekipleri gelene kadar ihtiyaç sahiplerine yardım sağlamaya başlamaları alışılmadık bir durum değildir. Aslında, gönüllülerin arama ve kurtarmanın %75'ini oluşturduğu bildirilmiştir ve bu anlamda gerçek ilk müdahale ekipleri olarak da ifade edilmektedir.[6] Çakacak tarafından 2008 yılında yapılan araştırmada da basit yaralanmaların %50'si, yapısal olmayan elemanların altında kalan afetzedelerin %30'u aileler, komşular, afet anında yardıma gelenler ve sivil toplum gönüllüleri tarafından kurtarılmaktadır.[7]

Afet risk algısı arttıkça motivasyon, beceriler, toplumsal katılım ve afet yönetimine proaktif bir yaklaşımı etkileyebilir. Akademik programlar, alandaki araştırmalar ve akredite sivil toplum kuruluşlarının faaliyetleri daha etkin ve hazırlıklı bir gönüllü kadrosunun oluşmasına katkıda bulunabilir. Özellikle genç nüfusun niceliksel fazlalığı ile zaman ve sağlık yönünden elverişli olmaları sebebiyle hem resmi kurumlar hem de sivil toplum kuruluşları gönüllülük çalışmalarında bu kitleyi aktif olarak kullanmak ve öğrenciler arasında da katılımı daha da artırmak için çalışmalar yürütmektedir.[8] Yükseköğretim Kurumu tarafından 30 Nisan 2023 tarihinde açıklanan verilere göre Türkiye'deki 208 yükseköğretim kurumunda 6.950.142 öğrenci bulunmaktadır.[9]

Alan yazın incelendiğinde afetlerde gönüllülük ile ilgili çalışmaların nitel kısımlarında genel olarak yönetim çerçevesinde ele alındığı, değerlendirme ve önerilerin paylaşıldığı görülmektedir. Nicel çalışmaları incelediğimizde ise yine yönetimsel bakış açısıyla gönüllü yönetimi sürecindeki atama problemlerini temel alan optimizasyon modellerinin geliştirildiği görülmektedir.[10] Demirbilek ve Öztürk

tarafından 2023 yılında üniversite öğrencileriyle yapılan çalışmada ise literatürden farklı olarak gönüllü olmaktan uzaklaştıran etkenler ele alınmıştır. Karma yöntemle yapılan bu çalışmada öğrencilerin cevapları sonucu bazı etmenler belirlenmiş olup gönüllülük motivasyonunun artırılması adına ilgili kurum ve kuruluşlara bazı önerilerde bulunulmuştur.[8]

Alan yazına katkı sunacağı öngörüsüyle bu çalışmanın amacı da Gümüşhane üniversitesi öğrencilerinin afet risk algısı ve afet gönüllüsü olması arasındaki ilişkinin saptanması olarak belirlenmiştir. Benzer şekilde afet risk algısının afet bilgisi ile ilgili ders alma, afet gönüllüsü olma, afet gönüllüsü olmayı çevresine tavsiye etme, tüm bireylerin afet gönüllüsü olması, afet gönüllülüğü ile ilgili eğitimler alma ve afet zamanlarında saha çalışmalarına katılma durumuna göre değişkenlik durumunun incelenmesi de amaçlanmaktadır.

Bu araştırmada aşağıdaki sorulara cevap aramaktadır.

1. Öğrencilerin afet risk algısı ne düzeydedir?
2. Öğrencilerin afet gönüllü olma tutumları ne düzeydedir?
3. Öğrencilerin afet risk algısı afet gönüllüsü olma tutumuyla ilişkili midir?

MATERYAL VE METOT

Araştırmanın Türü

Bu çalışma Gümüşhane Üniversitesi öğrencilerinin afet risk algılarının belirlenmesi ve bu durumun afet gönüllüsü olma tutumlarına ilişkisini incelemek amacıyla yapılmış tanımlayıcı ve kesitsel tipte nicel bir araştırmadır.

Araştırmanın Yeri

Bu araştırma 2023-2024 Eğitim-Öğretim yılı içerisinde Gümüşhane Üniversitesi'nde yürütülmüştür. Muhtemel afetlerde ilde ikamet eden profesyonel ekiplerin de afetzede olabilme ihtimali afet durumlarında daha fazla olumsuzluk yaşanmasına sebep olacaktır. Bu sebeple nitelikli ve gönüllü insan kaynağı kapasitesinin artırılması adına Gümüşhane Üniversitesi örneklemi seçilmiştir.

Araştırmanın Evreni

Bu çalışmanın evrenini 2023-2024 Eğitim-Öğretim yılı içerisinde Gümüşhane Üniversitesi'nde eğitim alan 23.550 öğrenci oluşturmuştur. Örneklem belirleme aşamasında "Basit Rastgele Örnekleme" yöntemi tercih edilmiştir. Evreni bilinen örneklem hesaplama yöntemine göre değerlendirildiğinde; 378 kişi gerektiği görülmekte olup 395 öğrenciye ulaşılmış olup çalışmada ve analizlerde bu kişiler dikkate alınmıştır.[11]

Veri Toplama Araçları ve Veri Toplama Yöntemi

Bu makalede yer alan ölçek Mızrak ve Aslan tarafından geliştirilmiştir.[12] Veriler ise çevrimiçi anket yöntemi ile toplanmıştır. Anket iki aşamadan meydana gelmektedir. Öncelikle öğrencilerin sosyodemografik durumlarını tanımlayan sorular, ardından gönüllükle ilgili tutumları son olarak ise afet risk algılarının belirlenmesini amaçlayan ifadelerden oluşmaktadır. Çalışmada ölçme aracı olarak Üniversite Öğrencileri Afet Risk Algısı Ölçeği kullanılmıştır. Kullanılan ölçeğin güvenirliği Cronbach's Alpha ile alınmış olup α=,927 olarak bulunmuştur.

Sosyodemografik Özellikler

Anketin ilk bölümü olan bu kısımda demografik ifadeler yer almaktadır. İçeriğinde cinsiyet, yaş, bölüm ve sınıf değişkenler yer almaktadır.

Afet Bilgisi ve Gönüllülük ile İlgili Tutumlar

Anketin devamında afet bilgisi ile ilgili ders alma, afet gönüllüsü olma, afet gönüllüsü olmayı çevrenize/arkadaşlarınıza tavsiye etme, tüm bireyler afet gönüllüsü olmalı mı, afet gönüllülüğü ile ilgili eğitim ve faaliyetlere katılma ve afet zamanlarında gönüllü olarak saha çalışmalarına katılmasıyla ilgili değişkenler yer almaktadır.

Üniversite Öğrencileri Afet Risk Algısı Ölçeği

19 sorudan oluşan Üniversite Öğrencileri Afet Risk Algısı ölçme aracında; afet yönetiminden sorumlu paydaşların, toplumsal dirence pozitif katkı sağlamak için öğrencilerin afet riski algısını anlamaları amacıyla geliştirilmiştir.

"Üniversite Öğrencileri Afet Risk Algısı" ölçeğinde "Kampüste afetlerden zarar görebilirim." "Kampüste afet olduğu zaman büyük maddi hasar oluşur." gibi sorular yer almakta olup; 5'li Likert ile (1= Kesinlikle katılmıyorum, 5=Kesinlikle katılıyorum) değerlendirilmektedir. 5'li Likert tipi bir ölçme aracıdır. 19 madde ve 4 alt boyuttan oluşan bu ölçme aracı, 1. ile 6. maddeler arası Maruziyet, 7.'nci, 8.'inci, 9.'uncu, 14.'üncü ve 19.'uncu maddeler Anksiyete, 10.'uncu, 11.'inci, 12.'nci, 13.'üncü ve 15.'inci maddeler Etki alt boyutunu; geriye kalan 16.'ncı, 17.'nci ve 18.'inci maddedeki sorular ise Yönetilemezlik alt boyutunu ifade etmektedir.[12]

Araştırmanın Etik Yönü

Gümüşhane Üniversitesi Bilimsel Araştırma ve Yayın Etiği Kurulu'ndan araştırma öncesinde yazılı izin (25.10.2023 tarih, Sayı: 2023/05, Karar Sayı: E-95674917-108.99-215162) ve araştırmaya katılan kişilere araştırma ile ilgili açıklama yapılarak onamları alınmıştır. Ayrıca çalışmada kullanılan ölçek için yazarlardan izin alınmıştır.

Verilerin Analizi

Veriler SPSS 25.0 paket programı aracılığıyla değerlendirilmiştir. Sonuçlar için %95'lik güven aralığı ve p<,05 anlamlılık kabul edilmiştir. Araştırmada kullanılacak istatistikleri tespit edebilmek adına normallik testi uygulanmıştır. Dağılımın normal olduğu tespit edildiğinden t-Testi ve ANOVA Tek Yönlü Varyans Analizi (parametrik testler) uygulanmıştır.

Sınırlılıklar

Bu araştırmanın çalışma grubu Gümüşhane Üniversitesi'nde 01.11.2023-01.02.2024 tarihleri arasında eğitim alan, erişilebilen ve gönüllü olarak dahil olmayı kabul eden öğrenciler ile sınırlıdır. Veri toplama yönteminin çevrimiçi anket olması sebebiyle çalışmaya katılım motivasyonunun düşük olduğu gözlemlendi. Analizlerde kullanılan programlar değiştiğinde aynı değerlerin çıkmayabileceği de araştırmanın kısıtları arasındadır.

BULGULAR VE TARTIŞMA

Çalışmanın bu bölümünde katılımcıların sosyodemografik özellikleri ile çalışmada kullanılan ölçeğe verilen cevapların analiz sonuçları ve yorumları aktarılacaktır. Araştırmadan elde edilecek bulgular sonucunda ise öğrencilerin afet farkındalığı ile gönüllü olma davranışları tespit edilip sonuç ve öneriler paylaşılacaktır.

Tablo 1'de araştırmada yer alan katılımcıların %70,4'ü kadın, %50,12'si sağlık bilimleri alanında okuyan öğrenciler, %32,7'si birinci sınıf öğrencisi ve %68,1'inin afet bilgisi ile ilgili ders almadığı tespit edilmiştir. Ayrıca öğrencilerin %83,0'ının afet gönüllüsü olmadığı, %80,5'inin gönüllülüğünü çevresine tavsiye edeceği, %73,7'sinin herkesin afet gönüllüsü olması gerektiğini düşündüğü, %69,9'unun afetlerle ilgili eğitim ve faaliyetlere katılmadığı ve son olarak da afet zamanlarında gönüllü olarak saha çalışmalarına katılırım diyenlerin %61,8'ini oluşturduğu tespit edilmiştir.

Analizleri planlamak için yapılan normallik testi sonucunda çarpıklık (-.045) ve basıklık (.523) değerinin -1,5 ile +1,5 arasında olması sebebiyle verilerin normal dağılım gösterdiği anlaşılmış olup çalışmada parametrik testler uygulanmıştır.[13] Çalışmamızda kullandığımız afet risk algısı ölçeği normal dağılım özelliği gösterdiği için ikili grup soruları için bağımsız örneklem t-testi kullanılmıştır.

Tablo 1. Çalışmaya Katılan Bireylerin Sosyodemografik Dağılımı

Değişken	Grup	Frekans (n)	%
Cinsiyet	Kadın	278	70,4
	Erkek	117	29,6
Yaş	18-21 yaş arası	252	63,8
	22 yaş ve üstü	143	36,2
Bölüm	Sağlık Bilimleri Alanında Okuyanlar	198	50,12
	Diğer Alanlarda Okuyanlar	197	49,88
Sınıf	1. Sınıf	129	32,7
	2. Sınıf	116	29,4
	3. Sınıf	48	12,2
	4. Sınıf	102	25,8
Afet bilgisi ile ilgili ders alma durumu	Evet	126	31,9
	Hayır	269	68,1
Afet Gönüllüsü müsünüz? (Resmi Kurum veya Sivil Toplum Kuruluşlarında)	Evet	67	17,0
	Hayır	328	83,0
Afet Gönüllüsü olmayı çevrenize veya arkadaşlarınıza tavsiye eder misiniz?	Evet	318	80,5
	Hayır	8	2,0
	Kararsızım	69	17,5
Sizce tüm bireyler Afet gönüllüsü olmalı mı?	Evet	291	73,7
	Hayır	104	26,3
Afet gönüllülüğü ile ilgili eğitim ve faaliyetlere katılıyor musunuz?	Evet	119	30,1
	Hayır	276	69,9
Afet zamanlarında gönüllü olarak saha çalışmalarına katılır mısınız?	Evet	244	61,8
	Hayır	53	13,4
	Kararsızım	98	24,8

%: Yüzde

Tablo 2'ye göre afet risk algısı ile cinsiyet ve yaş arasında istatiksel olarak anlamlı bir fark tespit edilmiştir (t(393)= 3,096, p=,002, t(393)= -2,805, p=,005). Afet risk algısında kadınlar ($\bar{X}$=3,1128, ss=,73178) erkeklerden ($\bar{X}$=2,8529, ss=,65696) 22 yaş ve üzeri bireylerin de ($\bar{X}$=3,1789, ss=,76572) 18-21 yaş arası bireylere göre ($\bar{X}$=2,9547, ss=,76218) daha yüksek olduğu tespit edilmiştir.

Afet risk algısı ile bölüm, afet bilgisi ile ilgili ders alma, afet gönüllüsü olma, tüm bireyler afet gönüllüsü olması, afet gönüllülüğü ile ilgili eğitim ve faaliyetlere katılma arasında anlamlı bir fark bulunmadığı tespit edilmiştir (t(393)=-1,791, p=,074, t(393)=-,633, p=,074, t(393)=,690, p=,490, t(393)=1,367, p=,173, t(393)=,389, p=,697).

Tablo 3'e göre istatiksel olarak afet risk algısı ile sınıf düzeyi arasında anlamlı bir fark bulunmaktadır (F(3-391)=8,473, p=,000). Ortalamalara göre en yüksek afet risk algısı 3. Sınıf seviyesindeki katılımcılarda olup ($\bar{X}$ =3,3476, ss=,52975) en düşük afet risk algısı düzeyi ise 1.sınıf öğrencilerinde ($\bar{X}$=2,8556, ss=,79445) olduğu görülmektedir. Farklı olarak afet gönüllüsü olmayı tavsiye edenler ve afet zamanlarında saha çalışmalarına katılma durumunun afet risk algısı arasında istatiksel olarak anlamlı bir fark bulunmadığı tespit edilmiştir (F(2-392)= ,062, p=,940, F(2-392)=,458, p=,633).

Afet Gönüllüsü olmayı tavsiye etme durumunda en yüksek afet risk algısı kısmen tavsiye ederim diyen gruptakilerin olduğu belirlenirken afet zamanlarında saha çalışmalarına katılmam diyenlerin afet risk algısı da diğerlerine göre daha yüksek olduğu belirlenmiştir ($\bar{X}$=3,0397, ss=,71184, ($\bar{X}$=3,0874, ss=,89557).

Tablo 2: Bazı değişkenlere ilişkin Bağımsız Örneklem T-Testi Sonucu

	Gruplar	N	$\overline{X}$	S	Sd	t	p
Cinsiyet	Kadın	278	3,1128	,73178	393	3,096	,002
	Erkek	117	2,8529	,82920			
Yaş	18-21 yaş arası	252	2,9547	,76218	393	-2,805	,005
	22 yaş ve üzeri	143	3,1789	,76572			
Bölüm	Sağlık Bilimleri Öğrencileri	202	2,9682	,77176	393	-1,791	,074
	Diğer Alanlardaki Öğrenciler	193	3,1066	,76392			
Afet bilgisi ile ilgili ders aldınız mı?	Evet	126	3,0000	,76035	393	-,633	,527
	Hayır	269	3,0526	,77544			
Afet Gönüllüsü müsünüz?	Evet	67	3,0951	,74377	393	,690	,490
	Hayır	328	3,0237	,77590			
Sizce tüm bireyler afet gönüllüsü olmalı mı?	Evet	291	3,0675	,78535	393	1,367	,173
	Hayır	104	2,9474	,72195			
Afet Gönüllülüğü eğitim ve faaliyetlerine katılıyorum	Evet	119	3,0588	,83373	393	,389	,697
	Hayır	276	3,0259	,74234			

Tablo 3: Bazı değişkenlere ilişkin ANOVA sonucu

Değişken	Varyansın Kaynağı	Kareler Toplamı	df	Kareler Ortalaması	F	P
Sınıf	**Gruplar Arası**	14,263	3	4,754	8,473	,000
	Gruplar içi	219,393	391	,561		
	Toplam	233,656	394			
Afet Gönüllüsü olmayı tavsiye etme	**Gruplar Arası**	,074	2	,037	,062	,940
	Gruplar içi	233,582	392	,596		
	Toplam	233,656	394			
Afet zamanlarında saha çalışmalarına katılma	**Gruplar Arası**	,544	2	,272	,458	,633
	Gruplar içi	233,112	392	,595		
	Toplam	233,656	394			

Risk yönetimi kapsamında yerel aktörlerin etkinliğinin artırılmasının ifade edildiği Sendai Afet Risk Azaltma Çerçevesi (Sendai Framework for Disaster Risk Reduction 2015-2030), bakış açısının bireyden devlete mantığıyla toplumun tüm kesimlerini içerecek şekilde gönüllülükle ilgili faaliyetlerin, afet yönetim sürecinde müdahale ve iyileştirme çalışmalarında da yer almasını amaçlayan bütüncül toplumsal bir bakış kazanılmasının önemi vurgulanmaktadır.[14] Gönüllülük faaliyetleri aynı zamanda sürdürülebilir kalkınma hedeflerine ulaşabilme adına da önemli bir kaynak olup, birçok alanda arama kurtarmadan yangınlara müdahaleye kadar önemli katkılar sunmaktadırlar.[15]

Bu çalışma üniversite öğrencilerinin afet risk algısının belirlenmesi ve afet gönüllülüğü farkındalıklarının oluşturulabilmesi açısından son derece önem arz etmektedir. Miceli ve arkadaşları tarafından yapılan çalışmada afet risk algısının afete hazırlık davranışını pozitif olarak etkilediği tespit edilmiştir.[16]

Türkiye'de de yaklaşık 7 milyon öğrencinin olduğu göz önüne alındığında eğitimli ve genç insan kaynağı kapasitesinin etkin kullanımı ile hem risk yönetimi hem de kriz yönetimi aşamalarında dirençli ülke olma konusunda önemli bir adım atılmış olacağı da öngörülmektedir.[9]

Çalışmaya katılan öğrencilerin çoğunluğu kadın bireylerden oluşmakta olup istatistik sonuçlarına baktığımızda da benzer şekilde afet risk algılarının da daha yüksek olduğu görülmektedir. Alan yazın incelendiğinde hem Türkiye'de hem de uluslararası düzeyde yapılan araştırmalarda da çalışmamızla benzer şekilde kadınların risk algılarının daha yüksek olduğu görülmektedir.[17-21]

Gümüşhane Üniversitesinde öğrenim görülen tüm ön lisans ve lisans düzeyindeki bölümlerle yapılan bu çalışmaya %50,12 oranında sağlık bilimleri alanındaki öğrenciler katılım sağlamış olup katılımın tüm üniversite geneline göre oransal olarak fazla olması mesleki yakınlık, saha uygulamaları (staj) ve derslerin gereklilikleri sebebiyle sağlanmış olduğu düşünülmektedir. Usta tarafından 2023 yılında yapılan benzer çalışmada da katılımcıların %76'sı yine sağlık bilimleri alanlarında öğrenim gören bireyler olarak tespit edilmiş olup öğrencilerin mesleki duyarlılıklarının araştırmaya katılım yönünde pozitif etki ettiği görüşü pekiştirilmiştir.[22]

İstatistik sonuçlarına baktığımızda katılımcıların %68,1'inin afetle ilgili herhangi bir ders almadığı ve aynı zamanda %83,0'ünün de resmi kurum veya sivil toplum kuruluşlarında gönüllü olarak görev almadığı görülmektedir. Hiçbir kurum veya kuruluşun mevcut kaynak kapasitesinin afet durumlarında tek başına yeterli olmayacağı, sivil toplum kuruluşlarının ve toplumun da katkı ve katılımının beklendiği göz önüne alındığında üniversite öğrencilerinin afet gönüllülüğüne teşvik edilmesi kaynak kapasitesinin artırılmasına katkı sunacağı şüphesizdir.[24] Çalışmamızın sonuçlarında da tüm bireylerin afet gönüllüsü olmasını düşünenlerin, afet gönüllülüğü ile ilgili eğitim alanların ve afet gönüllüsü olan öğrencilerin afet risk algılarının yüksek olduğu tespit edilmiştir. Ek olarak alanyazın incelendiğinde de üniversite öğrencilerinin afet gönüllülüğü ile ilgili faaliyetlerde yer almasının ve eğitim almasının afet risk algısını artırdığı anlaşılmaktadır. [17,24]

Çalışma sonuçlarına göre katılımcıların yaşı ve sınıf düzeyi arttıkça afet risk algılarının arttığı da görülmektedir. Boran ve Ulutaşdemir'in yaptığı çalışmada da yaş ve sınıf seviyesinin arttıkça öğrencilerin afet tutumlarının arttığı görülmektedir.[25] Nijerya ve Belçika'da risk algısı üzerine yapılan araştırmalarda da yaş değişkeninin risk algısı üzerinde etkisi olduğu görülmektedir.[26-27]

SONUÇ VE ÖNERİLER

Bu araştırma Gümüşhane Üniversitesinde eğitim gören öğrencilerinin afet risk algısının afet gönüllüsü olma tutumları üzerindeki etkiyi incelemek amacıyla yapılmış olup afet gönüllüsü olan öğrencilerin afet risk algılarına ilişkin anlamlı bir fark bulunmadığı tespit edilmiştir.

Katılımcı sayısına oranla afet gönüllüsü olan öğrenci sayısının çok düşük bir oranda kalması afetlerle ilgili ders alan öğrencilerin de yarısından daha az oranda olmasıyla ilişkili olduğu düşünülmektedir. Çalışmada tespit edilen ve öneri getirilmesi gereken bir diğer husus ise yaş grubu ve sınıf düzeyleridir. 18-21 yaş arası ve 1. sınıf öğrencilerinin afet risk algıları ve gönüllü olma durumlarının düşük olduğu tespit edildiğinde üniversite eğitimine başlayan öğrencilerine oryantasyon anlamında topluluklar tanıtılabilir ve afet gönüllülüğü ile ilgili motivasyon kazanmaları sağlanabilir. Çalışmada katılımın yoğunlukla sağlık bilimleri alanındaki öğrencilerden oluştuğu görülmüş olup diğer branşlarda afet konusunda yeterli bilgi ve motivasyon olmadığı anlaşılmaktadır. Ayrıca 1. sınıftan başlamak üzere müfredatlara temel afet bilgisi eğitimi ile ilgili dersler konularak bireysel farkındalık ve dirençlilik oluşturulması adına planlamalar yapılabilir. Mevcutta afet bilgisi dersi olan bölümlere de seviyelerine uygun uygulamalı eğitimler eklenebilir.

Bu çalışmada afet gönüllülüğü ile ilgili eğitim ve faaliyetlere katılımın da düşük olduğu görülmüştür. Öğrencilerin bu eğitim ve faaliyetlere katılımını teşvik edebilmek amacıyla ildeki resmi kurum veya sivil toplum kuruluşlarıyla beraber yazılı ve görsel tanıtımlar yapılarak üniversite bünyesinde etkinlikler planlanabilir. Farkındalık ve sorumluluğun artırılması adına da etkinliklerin organizasyonu ve

yürütülmesinde öğrencilere de görevler verilebilir.

Yapılan çalışma afet risk algısı ve gönüllülük arasındaki ilişkiyi ele almış olup bu iki kavramın birbiriyle olan ilişkisinin ele alındığı yeni bir çalışma olarak öne çıkmaktadır. Ayrıca bu çalışma ile Gümüşhane Üniversitesinin afet gönüllülüğü açısından kaynak kapasitesini etkin kullanabilme adına ildeki resmi kurum ve sivil toplum kuruluşlarına da yol göstereceği öngörülmektedir.

Genel bir değerlendirme ile üniversite öğrencilerinin afet gönüllüsü olmasının avantajlarını da açıklamak gerekirse; eğitim ve farkındalık artışı, toplumsal duyarlılık ve destek, sivil toplum bilinci ve katılımı, acil durum planlaması ve hazırlık, uygulamalı deneyim ve mesleki gelişim, hızlı müdahale ve kurtarma süreci gibi konularda önemli katkılar sağlayacaklardır. Ayrıca ülke genelindeki üniversite öğrenci sayısı dikkate alındığında afet yönetimi alanında bireysel dirençlilik kazanmaları ve afet zamanlarında sahada gönüllü olarak etkin şekilde rol almaları bile toplumsal dirençliliğe ciddi bir katkı sağlanmış olacaktır.

Son olarak yeni yapılacak olan çalışmalara katkı sağlaması açısından veri toplama sürecinde bireylerin afet yaşama durumu, gelir durumu ve meslek bilgilerinin de çalışmaya dahil edilmesinin yeni bakış açıları kazanılması adına katkı sunacağı öngörülmektedir.

KAYNAKLAR

1. Afet ve Acil Durum Yönetimi Başkanlığı (AFAD). (2014). "Açıklamalı Afet Yönetimi Terimleri Sözlüğü". Erişim adresi: https://www.afad.gov.tr/aciklamali-afet-yonetimi-terimleri-sozlugu (Erişim tarihi: 15 Ocak 2024).
2. Emergency Disaster Database (EM-DAT). (2024). Classification. Retrieved from https://public.emdat.be/data
3. Doğru, S. ve Coşkun, Z. (2023). "Sağlık Bilimleri Fakültesi Öğrencilerinin Afet Risk Algısı ve Afete Hazırlıklı Olma İnanç Durumları Arasındaki İlişkinin İncelenmesi". Afet ve Risk Dergisi, 6(4), 1299-1311.
4. Pazzi, V, Morelli, S. ve Bonati, S. (2020). "Disaster Risk Perception Knowledge Base". Erişim adresi: https://links-project.eu/wp-content/uploads/2021/05/LINKS_D2.2_Disaster-Risk-Perception-Knowledge-Base_V2.0.pdf (Erişim tarihi: 30.08.2024)
5. Grant, A, Hart, M. ve Langer, E. R. (2019). "Integrating volunteering cultures in New Zealand's multi-hazard environment". Australian Journal of Emergency Management, the, 34(3), 52-59.
6. Oberijé, N. (2007). "Civil response after disasters. The use of civil engagement in disaster abatement". Erişim adresi: https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=0241535642b17867fa68103ebf9d1057f6851b41 (Erişim tarihi: 05 Mart 2024).
7. Çakacak, Ö. (2008). "Toplum afet müdahale ekipleri". In: M. Kadıoğlu ve E. Özdamar (Ed.). Afet Zararlarını Azaltmanın Temel İlkeleri (223-241). JICA Türkiye Ofisi Yayınları No: 2, Ankara.
8. Demirbilek, Ö. ve Öztürk, S. (2023). "Understanding university students WHO do not want to volunteer in disasters: A qualitative study from Türkiye". International journal of disaster risk reduction, 96, 103994.
9. Yükseköğretim Kurulu. (2023). "Yükseköğretimde yeni istatistikler". Erişim adresi: https://www.yok.gov.tr/Sayfalar/Haberler/2023/yuksekogretim de-yeni-istatistikler.aspx (Erişim tarihi: 07.03.2024).
10. Öksüz, M, Kuyrukluyıldız, N, Toksoy, M ve Tekay N. (2021). "Afetlere Müdahalede Gönüllülerin Yönetimi ve Önemi". 05-07.2021, 3. Uluslararası Afet ve Dirençlilik Kongresi (105-112). AFAD Kampüs/ANKARA.
11. Yazıcıoğlu, Y., & Erdoğan, S. (2014). SPSS uygulamalı bilimsel araştırma yöntemleri. Ankara: Detay Yayıncılık.
12. Mızrak, S. ve Aslan, R. (2020). "Disaster risk perception of university students". Risk, Hazards & Crisis in Public Policy, 11(4), 411-433. doi:10.1002/rhc3.12202
13. Tabachnick, B.G, Fidell, L.S. ve Ullman, J. B. (2013). Using multivariate statistics (Vol. 6): pearson Boston, MA.
14. UNDRR (2015). "Sendai framework for disaster risk reduction 2015–2030". Erişim adresi: https://www.undrr.org/media/16176/download?startDownload=20240925 (Erişim tarihi: 14.03.2024).
15. Alexander, D. (2010). "The voluntary sector in emergency response and civil protection: review and recommendations". International Journal of Emergency Management, 7(2), 151-166.
16. Miceli, R, Sotgiu, I. and Settanni, M. (2008). "Disaster preparedness and perception of flood risk: A study in an alpine valley in Italy". Journal of Environmental Psychology, 28(2), 164-173.
17. Ayvazoğlu, G, Çekiç, M. ve Yücel, H. (2020). "Hatay Mustafa Kemal Üniversitesi öğrencilerinin afet risk algısı ve afete hazırlık durumlarının değerlendirilmesi". Sosyal Bilimler Elektronik Dergisi, 4(7), 85-97.
18. Tercan, B. (2023). "Bireylerin Afet Risk Algısının Çeşitli Değişkenler Açısından Değerlendirilmesi". Gümüşhane Üniversitesi Sağlık Bilimleri Dergisi, 12(3), 1279-1287.
19. Liu, T, Zhang, H, Li, X. and Zhang, H. (2020). "Individual Factors İnfluencing Risk Perceptions of Hazardous Chemicals in China". Environmental Research, 186, 109523.
20. Peacock, W.G, Brody, S.D. and Highfield, W. (2005). "Hurricane Risk Perceptions Among Florida's Single Family Homeowners". Landscape and Urban Planning, 73 (2-3), 120-135.
21. Kung, Y.W. and Chen, S.H. (2012). "Perception of Earthquake Risk in Taiwan: Effects of Gender and Past Earthquake Experience". Risk Analysis: An International Journal, 32 (9), 1535-1546.
22. Usta, G. (2023). "Üniversite Öğrencilerinin Afet Risk Algısının Değerlendirilmesi". Sinop Üniversitesi Sosyal Bilimler Dergisi, 7(2), 1029-1051.

23. Ekşi, Ali. (2020). "Üniversite öğrencilerinde afetlere karşı bireysel direnç ve sosyal sermaye ilişkisinin değerlendirilmesi". Sağlık Akademisyenleri Dergisi, 7(1), 44-54.

24. Aras, M, Mumcu, A. ve Karabey, T. (2021). "Sağlık Bilimleri Fakültesi Öğrencilerinin Afet Bilinç Düzeylerinin Belirlenmesi". TOGÜ Sağlık Bilimleri Dergisi, 1 (2), 40-49.

25. Boran, N. ve Ulutaşdemir, N. (2023). "Acil Yardım ve Afet Yönetimi Öğrencilerinin Afet Farkındalığı ve Afetlere Yönelik Tutumlarının Değerlendirilmesi: Gümüşhane İli Örneği". Gümüşhane Üniversitesi Sağlık Bilimleri Dergisi, 12(1), 82-89.

26. Adelekan, I.O. and Asiyanbi, A.P. (2016). "Flood Risk Perception in Flood-Affected Communities in Lagos, Nigeria". Natural Hazards, 80 (1), 445-469.

27. Kellens, W, Zaalberg, R, Neutens, T, Vanneuville, W. and De Maeyer, P. (2011). "An Analysis of The Public Perception of Flood Risk on The Belgian Coast". Risk Analysis, 31 (7), 1055-1068.

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Cerrahi Birimlerde Çalışan Ebe ve Hemşirelerin Doğum Şekli Tercihleri ve Etkileyen Faktörler

Birth Mode Preferences and Affecting Factors of Midwives and Nurses Working in Surgical Units

Fatma GÖNAN[1], Semra ELMAS[2]

ÖZ

Kadınların doğum şekli tercihlerinin fizyolojik, psikolojik ve çevresel faktörlerin yanında sosyodemografik özelliklerden de etkilendiği bilinmektedir. Sağlık çalışanlarının diğer bireylere rol model olması nedeni ile çalışmamızda sezaryene ve vajinal doğuma tanık olan, cerrahi birimde çalışan ebe ve hemşirelerin doğum şekli tercihlerinin ve etkileyen faktörlerin değerlendirilmesi amaçlanmıştır. Çalışma Şubat-Nisan 2021 tarihleri arasında kesitsel-tanımlayıcı tipte yapılmıştır. Veriler, literatür taranarak oluşturulan "Birey Tanıtım Formu" ile toplanmıştır. Katılımcıların 25-34 yaş aralığında, %64,7'sinin hemşire olduğu ve %55,9'unun vajinal doğumu tercih ettiği saptanmıştır. Vajinal doğumu tercih etme nedenleri arasında, önceki sezaryende olumsuz deneyim yaşanması (%85,3), daha az kanama olması (%81,1) yakın çevrenin isteği, sosyal baskı (%76,8), sezaryende batın içi yapışıklık riski (%69,5), annelik içgüdüsü (%61,1) ve komplikasyon riski (%60) yer almaktadır. Sezaryen doğumu tercih nedenleri arasında ise doğum korkusu (%82,7), doğum ağrılarının şiddetli olması (%80), epizyotomi korkusu (%56), olumlu sezaryen doğumlara tanık olma (%41,3) yer almaktadır. Çalışmada doğum şekli tercihini yaş, ekonomik ve medeni durum, meslek, mesleki deneyim yılı, çalışılan birim ve çocuğa sahip olma durumunun etkilediği belirlenmiştir ($p<0,05$). Katılımcıların çoğunluğunun vajinal doğumu tercih ettikleri, vajinal doğumu tercih edenlerin ise yarıdan fazlasının epidural anestezi ile vajinal doğumu tercih ettikleri ve bu tercih nedenlerinin doğum korkusu ve doğum ağrılarının şiddetli olması kaynaklı olduğu saptanmıştır. Ebe ve hemşireler gebelere rol model oldukları için doğum şekli tercihleri dikkatle takip edilmeli, bu konudaki bilgi eksiklikleri giderilmeli ve desteklenmelidir.

Anahtar Kelimeler: Ebe, Hemşire, Sezaryen Doğum, Vajinal Doğum, Doğum Şekli

ABSTRACT

It is known that women's birth preferences are affected by sociodemographic characteristics as well as physiological, psychological and environmental factors. Since healthcare professionals are role models for other individuals, our study aimed to evaluate the delivery method preferences of midwives and nurses working in the surgical unit, who witnessed cesarean section and vaginal delivery, and the affecting factors. The study was conducted in a cross-sectional-descriptive type between February-April 2021. It was determined that between the ages of 25-34, 64.7% of the participants were nurses, 55.9% preferred vaginal delivery. Among the reasons for preferring vaginal delivery, negative experience in previous cesarean section (85.3%), less bleeding (81.1%), desire of close people, social pressure (76.8%), risk of intra-abdominal adhesion in cesarean section (69.5%), maternal instinct (61.1%), complication risk (60%). Fear of labor (82.7%), severe labor pains (80%), fear of episiotomy (56%), witnessing positive cesarean deliveries (41.3%) are among the reasons for choosing a cesarean delivery. In the study, it was determined that the choice of birth method was affected by age, economic, marital status, occupation, years of professional experience, unit of work, having a child. It was determined that the majority of the participants preferred vaginal birth, more than half of those who preferred vaginal birth preferred vaginal birth with epidural anesthesia, the reasons for this preference were the fear of birth, severe birth pain. Since midwives and nurses are role models for pregnant women, birth type preferences should be followed carefully, information gaps on this subject should be eliminated and supported.

Keywords: Midwife, Nurse, Cesarean Birth, Vaginal Birth, Type of Birth

Karadeniz Teknik Üniversitesi (KTÜ) Etik Kurulu'ndan 28.01.2021 tarihli 2020/388 sayılı etik kurul izni alınmıştır. Bu çalışma, birinci yazarın yüksek lisans tez çalışmasından üretilmiştir.

[1] Uzman Hemşire, Fatma GÖNAN, Ameliyathane Birimi, *KTÜ* Farabi Hastanesi Plastik Cerrahi, fatmagnan_611@hotmail.com, ORCID:0000-0003-3693-5767

[2]Dr. Öğr. Üyesi Semra ELMAS, Doğum ve Kadın Hastalıkları Hemşireliği, Lefke Avrupa Üniversitesi Sağlık Yüksekokulu, Hemşirelik Bölümü, selmas@eul.edu.tr, sg.semra.girgec@gmail.com, ORCID: 0000-0002-6510-1799

İletişim / Corresponding Author: Fatma GÖNAN

e-posta/e-mail: fatmagnan_611@hotmail.com

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GİRİŞ

Gebelik ve doğum gebeler ve bebekleri için genellikle bir sorun yaşamadan gerçekleştirilebilecek fizyolojik bir olaydır.[1] Vajinal yolla yapılan doğum milyonlarca yıldır kullanılan bir yoldur. Genel olarak, herhangi bir komplikasyon gelişmediği sürece anne adayının vücudunun fizyolojik yapısı vajinal doğum için mükemmeldir.[2] Fakat kadınlar doğum şeklini belirlerken karar verme güçlüğü yaşayabilmektedirler. Nitekim bu özel süreç birçok faktörden etkilenmektedir. Doğum şeklinin; tıbbi endikasyonların yanı sıra anne adayının sosyal çevresinden ve psikolojisinden fazlasıyla etkilendiği bir gerçektir. Kadınlar aynı zamanda sosyal medyadan ve sağlık personelinden de etkilenebilmektedir.[3]

Vajinal doğumun aksine sezaryen (CS) oranlarında gün geçtikçe artış gözlenmektedir. Bu istikrarlı şekilde artış, tüm dünya ülkelerinde endişeye neden olmakta ve bu artışı engellemeye yönelik çalışmalar yapmaya ihtiyaç duyulmaktadır. Ülkemizdeki CS oranlarındaki artışın nedenini anlamak ve başarılı müdahalede bulunmak için gebelerin doğum şekli tercihine etki eden nedenleri bulmak gerekmektedir. Nitekim günümüzde birçok ülkede ve Türkiye'de CS oranları Dünya Sağlık Örgütü (DSÖ)'nün öngördüğü oranın (%10-15) üzerinde olduğu görülmektedir.[4] Dünya Sağlık Örgütü, tıbbi olarak gerekli olduğunda sezaryenin mortalite ve morbiditeyi engellediği fakat gereksiz yapıldığında ise gebe ve bebeğe yarar sağladığı konusunda herhangi bir kanıt bulunmadığını belirtmiştir.[5] Yapılan çalışmalarda gebelerin sezaryen doğumu tercih etme nedenlerinin başında; vajinal doğum korkusu, doğum ağrıları, bebek ve kendisi için risksiz olduğunu düşünme, epizyotomi korkusu, daha güvenli olduğunu düşünme, zor doğum öyküsü, geç yaşta doğum yapma, doktorların önerisi gibi nedenler gelmektedir.[6-7] Yapılan başka çalışmalarda vajinal doğumu tercih etme nedenleri arasında ise; erken iyileşme ve erken taburculuk isteği/daha sağlıklı olması/daha az kanama/enfeksiyon olması, bebeğini daha erken emzirebilme, anestezi ya da ameliyat korkusu olduğu belirlenmiştir.[4-7] Gebelik sürecinde verilecek destek ve bilgilendirme ile anne adaylarının tercih yapması daha doğru sonuçları ortaya çıkarabilecektir. Böylece antenatal dönemdeki anksiyete ve bilinmezlikler kaldırılarak vajinal doğum için gebelerin özendirilme ihtimali artacaktır.[8]

Hemşire ve ebelerin doğum şekli tercihleri ve tercih nedenleri; mesleki deneyimleri, çalıştıkları birimlerdeki gözlemlerinden etkilenebilecek olup, rol model oldukları toplumdaki kadınlar için önem taşımaktadır. Bu nedenle çalışmamız CS ve vajinal doğuma şahit olan cerrahi birimde çalışan ebe ve hemşirelerin doğum şekli tercihleri ve tercih nedenlerini değerlendirmek amacıyla yapılmıştır.

MATERYAL VE METOT

Araştırmanın Türü

Bu çalışma kesitsel ve tanımlayıcı özellikte yapılmıştır. Çalışmada vajinal doğuma ve sezaryene tanık olan, cerrahi birimde çalışan ebe ve hemşirelerin doğum şekli tercihleri ile tercihlerini etkileyen faktörler nelerdir sorusuna yanıt aranmıştır.

Araştırmanın Yeri ve Zamanı

Çalışma Karadeniz Teknik Üniversitesi (KTÜ) Farabi Hastanesi'nde Şubat-Nisan 2021 tarihleri arasında yürütülmüştür.

Araştırmanın Evren ve Örneklemi

Çalışmanın evrenini KTÜ Farabi Hastanesi cerrahi birimde (üroloji, kulak burun boğaz, ortopedi ve travmatoloji, acil, kalp damar cerrahi, genel cerrahi, beyin

cerrahi, göz, kadın doğum, plastik cerrahi, pediatri cerrahi, göğüs cerrahi, yanık ve ameliyathane) çalışan 200 ebe ve hemşire oluşturmaktadır. Etki genişliklerine göre 1 serbestlik derecesinde α= 0.05 ve β= 0.20 ile G-Power testi kullanılarak örneklem 132 kişi olarak belirlenmiştir. Çalışmaya katılmayı sözlü ve yazılı olarak kabul eden 170 ebe ve hemşire ile araştırma tamamlanmıştır.

Veri Toplama Yöntemi

Veri toplama araçları katılımcıların kendisine verilerek soruları yanıtlamaları istenmiştir. Veri toplama işleri yaklaşık 20 dakika sürmüştür.

Araştırmaya Dahil Edilme Ölçütleri

•Cerrahi birimde çalışan hemşire/ebe olmak,

•Çalışmaya katılmayı gönüllü kabul etmek,

•Araştırmanın yapıldığı tarihte çalışıyor olmak

Veri Toplama Araçları

Çalışmada araştırmacılar tarafından literatür taranarak oluşturulmuş anket formu kullanılmıştır.[9, 10, 11, 12, 13, 14, 15] Birey Tanıtım Formu katılımcıların sosyo-demografik özelliklerini (sekiz soru), obstetrik özelliklerini (dokuz soru) ve doğum şekli tercihlerini ve tercih nedenleri (dört soru) olmak üzere üç bölüm ve 21 sorudan oluşmuştur.

Verilerin Değerlendirilmesi

Veriler SPSS 22,0 istatistik paket programında; sayı, yüzde, ortalama-standart sapma ve ki kare testleri ile değerlendirilmiştir.

Araştırmanın Etik Boyutu

Çalışmanın yürütülebilmesi için KTÜ Farabi Hastanesi Bilimsel Araştırma ve Yayın Etik Kurulu 28.01.2021 tarih ve 2020/388 sayılı etik kurul izni, araştırmanın yapılacağı personellerin aktif çalıştığı KTÜ Farabi Hastanesi'nden 21.12.2020 tarihli ve 2020-11230 sayılı kurum izni alınmıştır. Çalışmanın amacı ve uygulama şekli katılımcılara anlatıldıktan sonra, çalışmaya katılmayı kabul eden ebe ve hemşirelerden sözlü ve yazılı onam alınmıştır.

Araştırmanın Sınırlılıkları

Çalışma verilerinin, tek bir hastanede çalışan hemşire ve ebelerle gerçekleştirilmiş olması araştırmanın sınırlılığıdır. Türkiye'deki tüm cerrahi birimlerde çalışan ebe ve hemşirelere genellenemez.

BULGULAR VE TARTIŞMA

Cerrahi birimde çalışan ebe/hemşirelerin %24,1'inin 25-29 yaş, %24,1'inin 30-34 yaş aralığında olduğu, %81,8'inin lisans mezunu olduğu, %56,5'inin evli, %57,1'inin gelirinin giderine eşit, %64,7'sinin hemşire, %66,5'inin cerrahi serviste çalıştığı, %55,9'unun 10 yıldan fazla çalıştığı belirlenmiştir (Tablo 1).

Tablo 1. Ebe/Hemşirelerin Sosyo-Demografik Özellikleri

Özellikler	n	%
Yaş Grubu		
20-24	7	4,1
25-29	41	24,1
30-34	41	24,1
35-39	30	17,6
40-44	29	17,1
45 Yaş üstü	22	12,9
Eğitim Durumu		
Lise	10	5,9
Ön Lisans	15	8,8
Lisans	139	81,8
Yüksek Lisans	6	3,5

Tablo 1. (Devamı)

Özellikler	n	%
En Fazla Yaşanılan Yer		
Köy	6	3,5
İlçe	37	21,8
Şehir	127	74,7
Medeni Durum		
Evli	96	56,5
Bekâr	74	43,6
Ekonomik Durum		
Gelir Giderden Az	63	37,1
Gelir Gidere Eşit	97	57,1
Gelir Giderden Fazla	10	5,9
Meslek		
Ebe	60	35,3
Hemşire	110	64,7
Çalışılan Birim		
Ameliyathane	57	33,5
Cerrahi Servis	113	66,5
Mesleki Deneyim		
5<	7	4,1
5-10	68	40,0
10>	95	55,9
T0plam	**170**	**100**

%: Yüzde

Cerrahi birimde çalışan ebe ve hemşirelerin %55,9'unun vajinal doğumu tercih ettiği saptanmıştır (Tablo 2). Değirmenciler (2020)'in yaptığı benzer bir çalışmada; katılımcıların %66,6'sının vajinal doğumu tercih ettiği saptanmıştır.[7] Buradan yola çıkarak sağlık çalışanlarının yarıdan fazlasının sezaryen doğumun risklerini gözlemlediği için doğumun doğasında olması gerektiği gibi gerçekleştirmek istediği sonucuna varılmıştır. Tektaş ve arkadaşlarının (2018) sağlık bilimleri fakültesinde okuyan öğrencilerle yaptığı çalışmada da %87,8'inin vajinal doğumu tercih edeceği saptanmıştır.[16] Ülkemizde Türkiye Nüfus ve Sağlık Araştırması (TNSA) 2018 verilerine göre sezaryen oranları %52'dir. Sezaryen kararı doğumların %38'i için doğum sancıları başlamadan önce verilirken %14'ü için doğum sancıları başladıktan sonra verilmiştir. Planlanmış sezaryenlerin fazla olması, sezaryen doğumların çoğunun gerekli ya da zorunlu olmadığını gösterebilir.[17] Dünyada ve ülkemizde artan sezaryen oranlarına bakıldığında çalışmamızda vajinal doğum tercih oranlarının yüksek çıkması umut vericidir. Ancak çalışmamızda sezaryen doğumu tercih eden sağlık çalışanlarının yalnız %31,2'sinin son doğumunun vajinal olduğu belirlenmiştir. Bunun nedeni ebe ve hemşirelerin yaşadıkları olumsuz doğum deneyiminden kaynaklı olduğu düşünülmektedir. Çalışmamızda sezaryeni tercih oranı DSÖ'nün belirlediği %10-15 oranının üzerindedir. Dünya Sağlık Örgütü, gerekli olduğunda sezaryenin mortalite ve morbiditeyi engellediği, gereksiz olduğunda ise gebe ve bebek için herhangi bir yarar sağladığına dair kanıt bulunmadığını belirtmiştir.[5]

Vajinal doğumu tercih edenlerin %52,6'sının epidural anestezi ile vajinal doğumu tercih ettiği belirlenmiştir (Tablo 2). Doğaner ve arkadaşları (2013) öğrencilerin %73,9'unun epidural anestezi ile normal doğum yapmayı tercih ettiklerini saptamışlardır.[18] Ayrıca Akyol ve arkadaşlarının (2011) yaptıkları bir çalışmada sezaryen doğumu tercih edenlerin %42'sinin imkan olduğunda epidural anestezi ile vajinal doğumu tercih edebilecekleri belirlenmiştir.[19] Vajinal doğumu epidural anestezi ile yapmak isteyen katılımcıların doğum ağrılarından dolayı bu yöntemi tercih ettiği düşünülmektedir. Ebelerin ve hemşirelerin doğumu ağrıyla ilişkilendirme düşünceleri ve yaklaşımları güncel kaynaklar, terimler ve örneklerle değiştirmeye yönelik girişimler yapılmalıdır. Aynı zamanda kadının doğum yeteneği konusundaki düşünceleri, deneyimleri öğrenilerek olumlu süreçleri fark etmeleri sağlanmalı ve doğum ağrılarını kontrol altına almaya yönelik egzersiz ve eğitimler verilmelidir. Böylece yüksek maliyet gerektiren epidural anestezinin kullanımı önlenecektir.[20]

Ebe/hemşirelerin %85,3'ünün önceki sezaryende olumsuz deneyim yaşaması, %81,1'inin daha az kanama olması, %76,8'inin yakın çevrenin isteği, sosyal baskı, %69,5'inin sezaryende batın içi yapışıklık riski, %61,1'inin annelik içgüdüsü, %60'ının daha az komplikasyon riski olması, %58,9'unun bedenin temizleneceği düşüncesi, %55,8'inin doğal, anne bebek için daha sağlıklı olması gibi nedenlerle vajinal doğumu tercih ettiği saptanmıştır (Tablo 2). Değirmenciler (2020)'in sağlık çalışanlarıyla yaptığı çalışmada katılımcıların %94,8'inin doğal ve anne bebek için daha sağlıklı olması, %74,8'inin postpartum dönemin daha iyi geçtiği, %51,9'unun erken iyileşme ve erken

taburculuk, %44,1'inin bebeğin daha erken emzirilebilmesi, %42,2'sinin daha az komplikasyon riski düşüncesi ile vajinal doğumu tercih ettiği belirlenmiştir.[7] Ünay ve Taşpınar (2018)'ın yaptığı çalışmada da katılımcıların %59'unun erken iyileşme ve eve daha çabuk dönme isteği/daha sağlıklı olması/daha az kanama/enfeksiyon olması, %14,3'ünün daha erken emzirebilme isteği, %11,5'inin önceki doğumun vajinal olması/üçten fazla çocuk isteği, %87,6'sının anestezi ya da ameliyat korkusu gibi nedenler belirtmiştir.[4] Çalışmamızda vajinal doğum tercih nedenleri diğer çalışmalarla aynı nedenlerden dolayı tercih edildiği görülmüştür.

Katılımcıların %82,7'si doğum korkusu, %80'i doğum ağrılarının şiddetli olması, %56'sı epizyotomi korkusu, %42,7'si daha konforlu-güvenli olduğunu düşünme, %41,3'ü olumlu sezaryen doğumlara tanık olma, %34,6'sı doğum zamanı ve süresinin belli olması, %32'si mesleki gözlemler, tanık olunan olumsuz vajinal doğumlar, tıbbi endikasyon olması gibi nedenlerle sezaryeni tercih etmişlerdir (Tablo 2). Değirmenciler (2020)'in yaptığı çalışmada sağlık çalışanlarının %49,1'i doğum korkusundan, %39,6'sı doğum ağrılarının şiddetli olmasından, Sönmez ve Sivaslıoğlu (2019)'nun çalışmasında katılımcıların %10,5'i ağrı korkusundan ve Stoll, Hauck ve Hall (2016)'ın çalışmasında kadınların vajinal doğumdan korkmasından dolayı sezaryen doğumu tercih ettiği saptanmıştır.[7-8-21] Ebe ve hemşireler doğum korkusu ve doğum ağrılarının şiddetli olması gibi faktörlerden etkilenmekte ve doğum şekli tercihini sezaryen doğumdan yana yapmaktadır. Doğuma hazırlık eğitimlerinin verilmesi, var olan korkulara yönelik bilgilendirilme yapılması, korkularının azaltılması/giderilmesi ve eğitimle desteklenmesi gerektiği düşünülmektedir.

Tablo 2. Ebe ve Hemşirelerin Doğum Şekli Tercihleri ve Tercih Nedenleri

Doğum Şekli Tercihleri	n	%
Doğum Tercihi		
Vajinal Doğum	95	55,9
Sezaryen Doğum	75	44,1
Vajinal Doğum Yöntemi		
Epidural Anestezi	50	52,6
Müdahalesiz/Normal Spontan	45	47,4
Vajinal Doğumu Tercih Nedenleri*		
Önceki Sezaryende Olumsuz Deneyim Yaşanması	81	85,3
Daha Az Kanama Olması	77	81,1
Yakın Çevrenin İsteği, Sosyal Baskı	73	76,8
Sezaryende Batın İçi Yapışıklık Riski	66	69,5
Annelik İçgüdüsü	58	61,1
Daha Az Komplikasyon Riski Olması	57	60,0
Bedenin Temizleneceği Düşüncesi	56	58,9
Doğal, Anne ve Bebek İçin Daha Sağlıklı Olması	53	55,8
Sezaryen Doğumu Tercih Etme Nedenleri*		
Doğum Korkusu	62	82,7
Doğum Ağrılarının Şiddetli Olması	60	80,0
Epizyotomi Korkusu	42	56,0
Daha Konforlu- Güvenli Olduğunu Düşünme	32	42,7
Olumlu Sezaryen Doğumlara Tanık Olma	31	41,3
Doğum Zamanı ve Süresinin Belli Olması	26	34,6
Mesleki Gözlemlerim, Tanık Olduğum Olumsuz Normal Doğumlar	24	32,0
Tıbbi Endikasyon Olması	24	32,0

*Birden fazla seçenek işaretlenmiştir.

Sosyo-demografik özelliklerin doğum şekli tercihlerine etkisini incelediğimizde, yaş gruplarının (p=0,000), ekonomik durumun (p=0,005), medeni durumun (p=0,038), mesleğin (p=0,000), mesleki deneyimin (p=0,001) ve çalışılan birimin (p=0,000) doğum şekli tercihini etkilediği görülmüştür (Tablo 3).

Yaş arttıkça sezaryen doğum oranlarının da arttığı görülmüştür (p=0,000; Tablo 3). Sayıner ve arkadaşlarının (2009), Lataifeh ve arkadaşlarının (2009) yaptıkları çalışmalarda yaş arttıkça sezaryen doğum oranlarının da arttığı saptanmıştır.[9-22] Yapılan diğer çalışmalarda yaş artıkça malprezantasyon, ilerlemeyen eylem, iri bebek, fetal distress, preeklemsi, plasenta previa gibi endikasyonların arttığı belirtilmektedir.[23-24] İleri yaş için vajinal doğumun riskli olması, tıbbi endikasyon olması, hekim tarafından önerilmesi ve vajinal doğum korkusu gibi nedenler ile sezaryen doğum oranlarının arttığı söylenebilir.

Gelir miktarı arttıkça kadınların sezaryeni tercih etme oranlarının arttığı saptanmıştır (p=0,005; Tablo 3). Yapılan diğer çalışmalarda da bulgumuzu destekleyecek

sonuçlar elde edilmiştir.[25-26] Gelir düzeyi fazla olanların daha çok özel kurumlardan hizmet aldığı sezaryen doğumu yaptırma imkan ve olasılıklarının daha fazla olması kaynaklı olduğu düşünülmektedir.

Evli olanlar sezaryeni daha çok tercih ederken bekarların daha çok vajinal doğumu tercih ettikleri belirlenmiştir (%51; p=0,038; Tablo 3). Bulgumuz Değirmenciler'in yaptığı çalışmayla paralellik göstermektedir.[7] Geçmiş doğum öyküsü olanların yaşadığı olumsuz doğum deneyiminden kaynaklı sezaryen doğumu tercih ettiği düşünülmektedir.

Ebelerin hemşirelerden daha fazla oranda vajinal doğumu tercih ettikleri görülmüştür (%83,3; p=0,000; Tablo 3). Ebelerin almış oldukları eğitim, doğuma yönelik bilgi düzeylerinin yüksek olması ve hemşirelerin cerrahi alanda çalışması ve sezaryen doğumu daha konforlu bulması gibi nedenlerin etkilediği düşünülmüştür. Hemminki ve arkadaşlarının (2009) Finlandiya'da yaptıkları bir çalışmada ebelerin %82,1'inin, hemşirelerin %84,2'sinin vajinal doğumu tercih ettiği saptanmıştır.[27] Ancak Metin ve arkadaşlarının (2020) yaptığı çalışmada meslek grupları ile doğum şekli tercihleri arasında bir fark saptanmamıştır.[6]

Beş yıldan az çalışanların %14,3'ü sezaryen doğumu tercih ederken, 5-10 yıl arasındakilerin %29,4'ü, 10 yıl üzerinde çalışanların ise %56,8'inin sezaryen doğumu tercih ettiği görülmüştür (p=0,000; Tablo 3). Bunun nedeni olarak katılımcıların mesleki deneyimleri arttıkça gözlemledikleri kolay sezaryen doğumların ve şahit oldukları zor vajinal doğumların olması olarak belirtilebilir. Ancak Kovavisarach ve Ruttanapan (2016)'ın yaptıkları çalışmada 10 yıl altı mesleki deneyime sahip olan sağlık çalışanlarının sezaryen doğumu tercih ettikleri belirlenmiştir.[28] Bulgulardaki farklılığın eğitim eksikliğinden kaynaklı olabileceği düşünülmektedir.

Ameliyathanede çalışan sağlık personelinin %87,7'sinin, cerrahi serviste çalışan sağlık personelinin %22,1'inin sezaryen doğumu tercih ettiği belirlenmiştir (p=0,000; Tablo 3). Ameliyathanede çalışanların sezaryen doğumu tercih etme nedenleri arasında vajinal doğum korkusu, sezaryenin daha konforlu-güvenli olduğunu düşünme, olumlu sezaryen doğumlara tanık olma, kolay cerrahi süreçleri gözlemleme, önceki doğumda olumsuz deneyim yaşama gibi birçok faktör belirlenmiştir.

Tablo 3. Ebe/Hemşirelerin Doğum Şekli Tercihlerinin Sosyo-Demografik Özelliklerine Göre Dağılımı

Sosyo-demografik Özellikler	Vajinal Doğum		Sezaryen Doğum		χ^2	p
	n	%	n	%		
Yaş						
20-24	6	85,7	1	14,3		
25-29	27	65,9	14	34,1		
30-34	31	75,6	10	24,4		
35-39	15	50,0	15	50,0	23,764	**0,000***
40-44	10	34,5	19	65,5		
45 Yaş üstü	6	27,3	16	72,7		
Eğitim Durumu						
Lise	5	50,0	5	50,0		
Ön Lisans	6	40,0	9	60,0	3,458	0,326
Lisans	82	59,0	57	41,0		
Yüksek Lisans	2	33,3	4	66,7		
En Fazla Yaşanılan Yer						
Köy	1	16,7	5	83,3		
İlçe	23	62,2	14	37,8	4,335	0,114
Şehir	71	55,9	56	44,1		

Tablo 3. (Devamı)

Sosyo-demografik Özellikler	Vajinal Doğum		Sezaryen Doğum		χ^2	p
	n	%	n	%		
Ekonomik Durum						
Gelir Giderden Az	38	60,3	25	39,7	**10,569**	**0,005***
Gelir Gidere Eşit	47	48,5	50	51,5		
Gelir Giderden Fazla	0	0	10	100		
Medeni Durum						
Evli	47	49	49	51	**4.289**	**0,038***
Bekâr	48	64,9	26	35,1		
Meslek						
Ebe	53	88,3	7	11,7	**39,607**	**0,000***
Hemşire	42	38,2	68	61,8		
Mesleki Deneyim						
5<	6	85,7	1	14,3		
5-10	48	70,6	20	29,4	**14.731**	**0,001***
10 >	41	43,2	54	56,8		
Çalışılan Birim						
Ameliyathane	7	12,3	50	87,7	**66.125**	**0,000***
Cerrahi Servis	88	77,9	25	22,1		

χ^2 = Ki-kare
p= testin anlamlılık değeri

Ebe/hemşirelerin %38,2'sinin çocuğunun olmadığı, %12,9'unun düşük yaptığı, doğum yapanların %61,5'inin son doğumunu vajinal yolla gerçekleştirdiği, %60'ının çevre ve sosyal medyanın etkisiyle sezaryen doğum yaptığı, %67,1'inin sezaryen sonrası vajinal doğumun riskli/yapılamaz olduğunu düşündüğü, %36,5'inin doğumu özel hastanede yapmak istediği, %38,9'unun doğum şekline doktorun karar vermesini istediği, %87,6'sının pandemi döneminde doğum yapmak istemediği saptanmıştır (Tablo 4).

Tablo 4. Ebe ve Hemşirelerin Obstetrik Özellikleri

Değişkenler	n	%
Çocuk Sahibi		
Evet	105	61,8
Hayır	65	38,2
Düşük		
Düşük Var	22	12,9
Düşük Yok	148	87,1
Gerçekleştirilen Son Doğum Şekli		
Vajinal Doğum	64	61,5
Sezaryen Doğum	40	38,5
Son Doğumun Sezaryen Olmasının Nedeni		
Çevre veya Sosyal Medya	24	60,0
Kendi veya Eş İsteği	12	30,0
Doktor Yönlendirmesi	4	10,0
Sezaryen Sonrası Vajinal Doğuma Bakış Açısı		
Yapılabilir	56	32,9
Riskli-Yapılamaz	114	67,1
Doğumun Yapılmasını İstenilen Yer		
Özel Hastane	93	54,7
Üniversite Hastanesi	51	30
Devlet Hastanesi	26	15,3
Doğum Şekline Karar Vermesi Gereken Kişi		
Ebe	118	24,7
Doktor	186	38,9
Eş	74	15,5
Kendisi	100	20,9
Doğum Şekli Tercihinin Sorulma Durumu		
Evet	139	81,8
Hayır	31	18,2
Pandemide Doğum Yapmayı İsteme		
Evet	21	12,4
Hayır	149	87,6
Toplam	170	100

Katılımcıların çocuğunun olmasının (p=0,015), son doğumun gerçekleştirme şeklinin (p=0,000), doğum öncesi kontrollerinin yapılmasının istendiği yerin (p=0,000), doğum şekline karar vermesini gerekli gördüğü kişinin (p=0,000) ve doğum şekli tercihinin sorulma durumunun (p=0,011) doğum şekli tercihini etkilediği belirlenmiştir. Düşük yapmanın (p=0,551) ve pandemide doğum yapmanın (p=0,288) doğum şekli tercihini etkilemediği görülmüştür (Tablo 5).

Çalışmamızda çocuk sahibi olanların yarıdan fazlası vajinal doğumu tercih ederken, çocuk sahibi olmayanların yarısı CS'yi tercih etmiştir (p=0,015; Tablo 5). Çalışmamızdan farklı olarak Değirmenciler (2020)'in yaptığı çalışmada bekâr olanların evlilere oranla,

Tablo 4. (Devamı)

çocuk sahibi olmayanların olanlara oranla vajinal doğumu daha çok tercih ettiği saptanmıştır.[7] Çocuk sahibi olan sağlık personellerinin CS'yi daha çok tercih etme nedeninin olumsuz doğum deneyimleri olabileceği söylenebilir.

Düşük yapma durumu ile doğum şekli tercihi arasında anlamlı bir farklılık bulunmamıştır (p=0,551; Tablo 5). Karabulutlu (2012) yaptığı bir çalışmada sezaryen doğumu tercih edenlerin %17,9'unun düşük öyküsü olduğunu, bu oranın vajinal doğumu tercih edenlerde %6,6 olduğunu ve düşük yapma durumuyla doğum tercihleri arasında anlamlı bir ilişki olduğunu saptamıştır.[29] Bulgumuzun farklı olması örneklem grubunun sağlık personellerinden oluşmasından, bu durumu doğal seleksiyon olarak görmüş olabileceklerinden, daha olası/doğal bir durum olarak karşılamış olabileceklerinden dolayı olabilir.

Ebe ve hemşirelerin gerçekleştirdikleri son doğum şekli ile doğum tercihleri karşılaştırıldığında; son doğum şekli vajinal doğum olan grubun bir sonraki doğum şekli tercihi %68,8 oranı ile yine vajinal doğum iken, son doğum şekli sezaryen olanların %85'i yine sezaryen doğumu tercih ettiği belirlenmiştir. Gerçekleştirilen son doğum şekli ile doğum tercihleri arasında istatiksel olarak anlamlı bir fark olduğu saptanmıştır (p=0,000; Tablo 5). Sayıner ve arkadaşlarının (2009) yaptığı çalışmada doğumunu vajinal olarak yapan katılımcıların %63'ünün yine vajinal doğumu tercih ettiği, sezaryeni tercih edenlerin ise %82'sinin yine sezaryeni tercih ettiği belirlenmiştir.[9] Sezaryen doğum oranlarını arttıran nedenlerden bir tanesi "bir kez sezaryen, hep sezaryen" inanışı olduğu söylenebilir. Nitekim Şahin ve arkadaşlarının (2019) yapmış oldukları bir çalışmada gebelerin sezaryen sonrası vajinal doğumun yapılamaz olarak belirttikleri ve bunun nedeninin gebelerin doğuma yönelik bilgi düzeylerinin düşük olması olarak saptadıkları görülmüştür.[30] Sönmez ve Sivaslıoğlu (2019)'nun yaptığı benzer çalışmada gebelerin sezaryen doğumu tercih etme nedeni, ilk doğumlarının sezaryen olması, tıbbi endikasyon ve ağrı olduğu belirtilmiştir.[8]

Katılımcıların %87,5'inin çevre ve sosyal medya etkisi ile sezaryeni tercih ettiği belirlenmiştir (p=0,001; Tablo 5). Ülkemizde Kavlak ve arkadaşlarının (2012) yaptıkları araştırmada ilk gebeliklerde, eğitim düzeyi yüksek olan ve yaş aralığı 25-35 olan kadınların bilgi almak için sosyal medyayı kullandığı saptanmıştır.[31] Ayrıca Lagan, Sinclair ve Kernohan (2011)'ın yaptıkları çalışmada gebelerin sağlık profesyonellerinden yeterli miktarda bilgi alamadıkları için sosyal medyayı kullandıkları belirlenmiştir.[32] Günümüzde bilgiye ulaşmanın en kolay yolu olarak görülen ve aktif olarak kullanılan sosyal medya bireyleri etkisi altına aldığı, doğum şekli tercihi gibi durumlarda olumsuz etkilediği düşünülmektedir.

Özel hastanede doğum yapmak isteyenlerin çoğu (%56,5) sezaryen doğumu, devlet ve üniversite hastanesinde doğum yapmak isteyenlerin çoğunluğu ise vajinal doğumu tercih etmişlerdir (sırasıyla %80,8, %60,8; p=0.005; Tablo 5). Açıkgöz ve arkadaşlarının (2020) yaptıkları çalışmada devlet hastanesinde sezaryen doğum oranları özel ya da üniversite hastanelerine göre düşük olduğu belirlenmiştir.[33] Ancak çalışmamızın aksine Karabulutlu (2012)'nun ve Yakut (2015)'un yaptıkları benzer çalışmalarda kadınların doğumlarını yapmak istedikleri yer ve doğum şekli tercihleri arasında anlamlı fark bulunmamıştır.[29-34] Yaptığımız bu çalışmada özel hastanede doğum yapmak isteyenlerin sezaryen doğum tercih oranlarının yüksek çıkmasının nedeni; özel kurumlarda sezaryen doğuma ılımlı bakılması, isteğe bağlı sezaryen doğum yapmanın daha kolay olması olarak düşünülmektedir.

Doğum şekline karar vermesi gereken kişiyle doğum şekli tercihleri arasında istatistiksel olarak anlamlı bir ilişki saptanmıştır (p=0,000; Tablo 5). Doğum şekline ebenin karar vermesi gerektiğini düşünenlerin %75,7'sinin vajinal doğumu tercih ettiği belirlenmiştir. Ancak Yakut (2015)'un yaptığı çalışmada gebelerin doğum şekline karar verici olarak seçtiği kişilerin doğum şekli tercihlerini etkilemediği belirlenmiştir.[34]

Cerrahi birimlerde çalışan ebe ve hemşirelerle yapılan bu çalışmada doğum şekline karar vermesi istenen kişiler ile doğum şekli tercihi arasında anlamlı ilişki çıkmasının nedeni sağlık çalışanlarının çoğunun doğum şekli hakkında yeterli bilgiye sahip olmadığı, kendisinin yerine karar verici olarak alanında uzman bireylere güvendiği düşünülmüştür. Kendisini karar verici olarak görenlerin daha çok CS'yi seçtiği, buna ilişkin yeterli ve doğru kaynaklarca bilgilendirilmeleri gerektiği söylenebilir.

Sağlık personeli tarafından kendilerine tercih ettikleri doğum şekli sorulduğunu belirten ebe ve hemşirelerin %60,4'ünün vajinal doğumu, sorulmadığını belirtenlerin ise %64,5'inin sezaryen doğumu tercih ettiği belirlenmiştir (p=0,011; Tablo 5). Kadınlara hangi doğum şeklini tercih ettiklerinin sorulması onların hem doğum sürecine aktif katılmasını hem de doğru bildikleri yanlışların öğrenilmesi, bilgi eksikliklerinin giderilmesi konusunda fayda sağlayacağı söylenebilir.

Pandemi döneminde doğum yapmayı isteme durumu ile doğum şekli tercihi arasında anlamlı bir ilişki bulunamamıştır (p=0,288; Tablo 5). Bunun nedeninin pandemide her iki doğumda da gebenin ve bebeğin risk altında olması kaynaklı olduğu düşünülmektedir.

Tablo 5. Ebe ve Hemşirelerin Doğum Şekli Tercihlerinin Obstetrik Özelliklerine Göre Dağılımı

Obstetrik Özellikler	Vajinal Doğum		Sezaryen Doğum		χ2	p
	n	%	n	%		
Çocuk Sahibi Olma Durumu						
Evet	44	67,7	21	32,3	5,954	**0,015**
Hayır	51	48,6	54	51,4		
Düşük Yapma Durumu						
Düşük Var	11	50,0	11	50,0	0,355	0,551
Düşük Yok	84	56,8	64	43,2		
Gerçekleştirilen Son Doğum Şekli						
Vajinal Doğum	44	68,8	20	31,2	1,172	0,278
Sezaryen Doğum	6	15,0	34	85,0		
Son Doğumun Sezaryen Olmasının Nedeni						
Kendi veya Eş İsteği	0	0,00	12	100		
Çevre veya Sosyal Medya	3	12,5	21	87,5	13,529	**0,001**
Doktor Yönlendirmesi	3	75,0	1	25,0		
Sezaryen Sonrası Vajinal Doğuma Bakış Açısı						
Riskli-Yapılamaz	67	58,8	47	41,2	1,172	0,278
Yapilabilir	28	50,0	28	50,0		
Doğumun Yapılmasını İstenilen Yer						
Özel Hastane	44	43,5	50	56,5		
Devlet Hastanesi	21	80,8	5	19,2	12,719	**0,005**
Üniversite Hastanesi	31	60,8	20	39,2		
Doğum Şekline Karar Vermesi Gereken Kişi						
Ebe	78	75,7	25	24,3		
Doktor	91	57,6	67	42,4	63,403	**0,000**
Eşim	43	58,9	30	41,1		
Kendisi	41	41,8	57	58,2		
Doğum Şeklinin Sorulma Durumu						
Evet	84	60,4	55	39,6	6,399	**0,011**
Hayır	11	35,5	20	64,5		
Pandemide Doğum Yapmayı						
Evet	14	66,7	7	33,3	1,130	0,288
Hayır	81	54,4	68	45,6		

χ2 = Ki-kare, p= testin anlamlılık değeri

SONUÇ VE ÖNERİLER

Dünyada ve ülkemizde gün geçtikçe artan CS oranlarının önüne geçmek için, tüm dünya ülkeleri gibi ülkemizde de birçok çalışma yapılmaya başlanmıştır. Sağlık çalışanlarının topluma ve anne adaylarına rol model olması nedeni ile vajinal ve sezaryene tanık olan, cerrahi birimlerde çalışan ebe ve hemşirelerin doğum şekli tercihleri ve etkileyen faktörlerin bilinmesi önem arz etmektedir.

Çalışmamıza katılan cerrahi birimlerde çalışan ebe ve hemşirelerin yarısından fazlasının vajinal doğumu tercih ettiği, vajinal doğumu tercih edenlerin ise çoğunun epidural anestezi ile vajinal doğumu tercih ettikleri belirlenmiştir. Bu tercih nedenlerinin doğum korkusu ve doğum ağrılarının şiddetli olması kaynaklı olduğu saptanmıştır. Aynı zamanda büyük oranda aynı nedenlerden dolayı CS doğumların da tercih edildiği görülmüştür.

Ebe ve hemşirelerin sağlık bakım hizmetlerinde yer almaları, danışmanlık görevlerinin olması, doğum gibi durumlara daha yakından tanıklık etmeleri nedeniyle kadınlar, onların yönlendirmelerine ve bilgilendirmelerine başvurmak isteyebilirler. Aynı zamanda bireysel farklılıklara dikkat etmeksizin kendilerine model alarak aynı doğum şekillerini tercih etmek isteyebilirler. Bundan dolayı gösterilen tutum ve davranışların gebeler üzerinde etkili olabileceği düşünülmektedir.

Sağlık çalışanlarının doğum şekli tercihleri dikkatle takip edilmeli, bu konudaki bilgi eksiklikleri giderilmeli ve onların rol model oldukları unutulmamalıdır. Gerekçe olmadığı sürece sağlık çalışanları ve dolayısı ile diğer gebeler vajinal doğumlar için desteklenmelidir.

KAYNAKLAR

1. World Health Organization (WHO). (2018). "Individualized, supportive care key to positive childbirth experience, Geneva". Erişim adresi: https://www.who.int/reproductivehealth/publications/intrapartum-care-guidelines/en. (Erişim Tarihi: 12.12.2020).
2. Park, C.S, Yeoum, S.G. and Choi, E.S. (2005). "Study of subjectivity in the perception of cesarean birth". Nursing & health sciences, 7 (1), 3-8. DOI: 10.1111/j.1442-2018.2005.00206.x
3. Doğaner, G, Doğaner, A, Duran, Ö, Tuna, M. ve Turan, G. (2013). "Sağlık bilimlerinde okuyan öğrencilerin doğum şekli tercihlerine yönelik düşüncelerinin belirlenmesi". Türk Jinekoloji ve Obstetrik Derneği Dergisi, 10, 31-36.
4. Ünay, V. ve Taşpınar, A. (2018). "Sağlık Çalışanlarının Doğum Şekli Tercihleri ve Etkileyen Faktörler". STED/Sürekli Tıp Eğitimi Dergisi, 27 (3), 190-196.
5. WHO. (2015). "Department of Reproductive Healthand Research. Sezaryen Doğum Hızları ile ilgili DSÖ Açıklaması". Erişim adresi: https://docplayer.biz.tr/12052073-Sezaryen-dogum-hizlari-ile-ilgili-dso-aciklamasi.html. (Erişim Tarihi: 12.12.2020).
6. Metin, T.H, Akyiğit, E, Güzel, A. ve Engin, Y.F. (2020). "Hemşire ve Ebelerin Doğum Şekli Tercihlerinin İncelenmesi". Bitlis Örneği. Kadın Sağlığı Hemşireliği Dergisi, 6, 87-100.
7. Değirmenciler, B. (2020). Sağlık Personelinin Doğum Şekli Tercihi, Tercih Nedenleri ve Etkileyen Faktörlerin İncelenmesi. Yüksek Lisans Tezi. Pamukkale Üniversitesi Sağlık Bilimleri Enstitüsü, Denizli.
8. Sönmez, C.I. ve Sivaslıoğlu, A.A. (2019). "Gebe Kadınların Doğum Şekli Tercihi ve Bunları Etkileyen Faktörler". Konuralp Tıp Dergisi, 11 (3), 369-376.
9. Sayıner, F.D, Özerdogan, N, Giray, S, Özdemir, E. ve Savcı, A. (2009). "Kadınların Doğum Şekli Tercihlerini Etkileyen Faktörler". Perinatoloji Dergisi, 17, 104-112.
10. Gözükara, F. ve Eroğlu, K. (2008). "Primigravidaların doğum şekline yönelik tercihlerini etkileyen faktörler". Hacettepe Hemşirelik Yüksekokulu Dergisi, 15 (1), 32-46.
11. Gözükara, F. ve Eroğlu, K. (2011). "Sezaryen doğum artışını önlemenin bir yolu: Bir kez sezaryen hep sezaryen yaklaşımı yerine sezaryen sonrası vajinal doğum ve hemşirenin rolleri". Sağlık Bilimleri Fakültesi Hemşirelik Dergisi, 18 (2), 89-100.
12. Yanıkerem, E, Uçum E, Kitapçıoğlu, G. ve Karadeniz, G. (2010). "Kadınların doğum yöntemlerine bakış açısı, deneyim ve memnuniyetleri". Fırat Sağlık Hizmetleri Dergisi, 5 (13), 107-123.
13. Arikan, D, Özer, A, Arikan, İ, Çoşkun, A. and Kiran, H. (2011). "Turkish Obstetricians Personal Preference for Mode of Delivery and Attitude Toward Cesarean Delivery on Maternal Request". Arch Gynecol Obste. 284, 543-549. DOI: 10.1007/s00404-010-1682-z.
14. Aref-Adib, M, Vlachodimitropoulou, E, Lamb, B.W. and Selo-Ojeme, D. (2018). "UK O&G trainees attitudes to caesarean delivery for maternal request". Journal of Obstetrics and Gynaecolog, 38 (3), 367–371. DOI: 10.1080/01443615.2017.1345874.
15. Sun, N, Yin, X, Qiu, L, Yang, Q. and Gong, Y. (2020). "Chinese Obstetricians' Attitudes, Beliefs, And Clinical Practices Related To Cesarean Delivery On Maternal Request". Women And Birth, 33 (1), 67-71. DOI: 10.1016/j.wombi.2019.03.001
16. Tektaş, E, Bozkurt, G, Ergin, E. ve Sezgin, S. (2018). "Sağlık Bilimleri Fakültesi öğrencilerinin doğum şekli tercihleri ve etkileyen faktörler". Cukurova Medical Journal, 43, 63-69.
17. Türkiye Nüfus ve Sağlık Araştırması (TNSA). (2018). Erişim adresi: http://www.hips.hacettepe.edu.tr/tnsa2018/rapor/TNSA2018_ana_Rapor.pdf. (Erişim Tarihi 4.02.2021).
18. Doğaner, G, Doğaner, A, Duran, Ö. and arkadaşları. (2013). "Sağlık bilimlerinde okuyan öğrencilerin doğum şekli tercihlerine yönelik düşüncelerinin belirlenmesi". Turkish Journal Obstetrics and Gyneco, 1, 31-36.

19. Akyol, A, Yağcı, Ş.G. ve Tekirdağ, A.İ. (2011). "Sağlık Personelinin Doğum Şekli Özeliklerinin Sağlık Personeli Olmayanlarla Karşılaştırılması". JOPP Dergisi, 3 (2), 55-63.

20. Edirne, S. (2005). "Obstetrik anestezi ve analjezi uygulamaları". Rajyonal Anestezi. İstanbul: Nobel Tıp Kitabevi.

21. Stoll K.H, Hauck, Y.L. and Hall, W.A. (2016). "Home or hospital? Midwife or physician? preferences for maternity care provider and place of birth among Western Australian students". Women Birth. 29 (1), 33-38. DOI: 10.1016/j.wombi.2015.07.187.

22. Lataifeh, I, Zayed, F, Al-Kuran, O, Al-Mehaisen, L, Khreisat, W. and Khader, Y. (2009). "Jordanian obstetricians'personal preference regarding mode of delivery". Acta Obstetricia et Gynecologica Scandinavica, 88 (6), 733–736.

23. Qublan, H, Alghoweri, A. and Al-Taani, M. (2002). "Ceserean section rate: the effect of age and parity". Journal Obstetrics and Gnecology, 28 (1), 22-25.

24. Tang, S, Li, X. and Wu, Z. (2006). "Rising cesarean delivery rate in primiparous women in urban China: evidencefrom three nationwide household health surveys". American Journal of Obstetrics and Gynecology, 195 (6), 1527-32. DOI:/10.1016/j.ajog.

25. Penna, L. and Arulkumaran, S. (2003). "Cesarean section for non-medical reasons". International Journal of Gynecology and Obstetrics, 80 (2), 399-409. DOI: 10.1016/s0020-7292(03)00217-0.

26. Yaşar, Ö, Coşar, E, Köen, G.N, Şahin, F. ve Cevrioğlu, A.S. (2007). "Primipar Kadınların Doğum Tercihleri ve Etkileyen Faktörler". J Gynecol Obstet, 17, 414-420.

27. Hemminki, E, Klemetti, R. and Gissler, M. (2009). "Cesarean section rates among healthprofessionals in Finland 1190-2006". Acta Obstetricia Gyncol Scand, 88 (10), 1138-1144. DOI:10.1080/00016340903214957

28. Kovavisarach, E. and Ruttanapan, K. (2016). "Self-preferred route of delivery of thai obstetricians and gynecologists". J Med Assoc Thai, 99 (2), 84-90.

29. Karabulutlu, Ö. (2012). "Kadınların Doğum Şekli Tercihlerini Etkileyen Faktörler". İ.Ü.F.N. Hem. Dergisi, 20 (3) 210-218.

30. Şahin, S, Güler, S.D, Özdemir, K. ve Ünsal, A. (2019). "Gebelerde Doğum ile ilgili Bilgi Düzeyi ve Doğum Korkusunun Değerlendirilmesi". Bakırköy Tıp Dergisi, 15, 5-14.

31. Kavlak, O, Atan, Ş.Ü, Güle, D, Öztürk, R. And Atay, N. (2012). "Pregnant women's use of the internet in relation to their pregnancy in Izmir, Turkey". Informatics Heal Soc Care, 37, 253–263. DOI: 10.3109/17538157.2012.710686.

32. Lagan, B.M, Sinclair, M. and Kernohan, W.G. (2011). "What Is the impact of the internet on decision-making in pregnancy? A global study. Birth". 38 (4), 336–45. DOI: 10.1111/j.1523-536X.2011.00488.x.

33. Açıkgöz, B, Yüksel, A.N, Yüksel, C. ve Ayoğlu, F.N. (2020). "Aile sağlığı merkezine başvuran kadınların doğum yöntemleri ve etkileyen etmenler". Mersin Üniversitesi Saglık Bilim Dergisi, 13, 87-96.

34. Yakut, Y.E. (2015). Gebelerin Doğum Şekline İlişkin Görüş ve Tercihleri. Yüksek Lisans Tezi. Adnan Menderes Üniversitesi Sağlık Bilimleri Enstitüsü, Aydın.

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Bireylerin COVID-19 Pandemi Döneminde Korku Düzeylerinin Değerlendirilmesi:Türkiye Örneği

Evaluation Of Fear Levels Of Individuals During The Covıd-19 Pandemic Period: The Case Of Turkey

Dilek KUZAY[1], Osman Mert YILDIZ[2], Beste DAYAN[2], Hüdanur AKKÖZE[2], Zeynep IŞIK[2]

ÖZ

Amaç: SARS-COV-2 pandemisi boyunca Türkiye'de yaşayan bireylerin COVID-19 korku düzeylerini ölçmek ve demografik özelliklere göre korku düzeyi farklılıklarını incelemektir.

Araçlar ve Yöntem: Araştırmaya çevrimiçi anket vasıtasıyla 123'ü kadın ve 77'si erkek olmak üzere toplam 200 kişi katılmıştır. Araştırmanın evreni Türkiye'de yaşayan 18 yaş üstü bireylerden oluşmaktadır. Araştırmada katılımcıları sınıflandırmak ve COVID-19 korku düzeylerini ölçmek için demografik özellikler bilgi formu ve COVID-19 korkusu ölçeği kullanılmıştır.

Bulgular: COVİD-19 korkusu ölçeğinin Cronbach alpha güvenirlik katsayısı .89 olarak hesaplanmıştır. Araştırma kapsamında katılımcıların ortaya yakın düzeyde COVİD-19 korkusu yaşadıkları ortaya çıkmıştır ($\bar{X}$=17,49). Kadınların korku düzeylerinin (X=18,4) erkeklere kıyasla (X=15,99) daha yüksek olduğu saptanmıştır ve cinsiyetler arasında istatistiksel anlamlılık vardır ($p<0.05$). Ayrıca hane halkında 18 yaş altında birey bulunmayan grubun korku düzeylerinin ($\bar{X}$=18,54) bulunan grubun korku düzeyinden ($\bar{X}$=16,58) yüksek olduğu ve farkın istatistiksel olarak anlamlı olduğu gözlenmiştir ($p<0.05$).

Sonuç: Araştırmamızda Türkiye de yaşayan bireylerin ortaya yakın düzeyde COVID-19 korkusu yaşadıkları ve kadınların erkeklere göre COVID-19'dan daha fazla korktuğu ortaya çıkmıştır.

Anahtar Kelimeler: Covid-19, Covid-19 Korkusu Ölçeği, Korku Düzeyleri, SARS-COV-2

ABSTRACT

Purpose: The aim of this study is to measure the fear levels of people living in Turkey during the SARS-COV-2 pandemic process and to examine the differences in fear level according to demographic characteristics.

Materials and Methods: Total of 200 people, 123 women and 77 men, participated in the research through an online survey. The universe of the research consists of people over the age of 18 living in Turkey. The sample of the study consists of people who can be reached through simple random sampling through social media. Demographic Information Form and Coronavirus Fear Scale were used in the study to classify the participants and measure their COVID-19 fear levels.

Results: The Cronbach Alpha reliability coefficient of the Coronavirus Fear Scale was calculated as .89. Within the scope of the study, it was revealed that the participants experienced a moderate fear of coronavirus ($\bar{X}$ = 17.49). Fear levels of women (X = 18.4) were found to be higher than men (X = 15.99) and there is statistical significance between genders ($p <0.05$). In addition, it was observed that the fear level of the group with no person under the age of 18 in the household ($\bar{X}$ = 18.54) was higher than the fear level of the other group (16.58) and the difference was statistically significant ($p <0.05$).

Conclusion: In our research, it has been revealed that individuals living in Turkey have a moderate level of fear of COVID-19 and women are more afraid of COVID-19 than men.

Keywords: Covid-19, COVID-19 Fear Scale, Levels of Fear, SARS-COV-2

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[1]Doktor Öğretim Üyesi, Dilek KUZAY, Fizyoloji Bölümü, Kırşehir Ahi Evran Üniversitesi Tıp Fakültesi, dilekkuzay@gmail.com, ORCİD: 0000-0002-1460-9883
[2]Dr, Osman Mert YILDIZ, Kırşehir Ahi Evran Üniversitesi Tıp Fakültesi, osmanmertyildiz34750@gmail.com, ORCİD: 0000-0002-7679-1182
[2]Dr, Beste DAYAN, Kırşehir Ahi Evran Üniversitesi Tıp Fakültesi, bestedayan06@gmail.com, ORCİD: 0000-0003-2572-4809
[2]Dr, Hüdanur AKKÖZE, Kırşehir Ahi Evran Üniversitesi Tıp Fakültesi, huedanur.ak@web.de, 0000-0003-4538-4602
[2]Dr, Zeynep IŞIK, Kırşehir Ahi Evran Üniversitesi Tıp Fakültesi, melekfhz@hotmail.com, 0000-0002-5504-054X

İletişim / Corresponding Author: Dilek KUZAY
e-posta/e-mail: dilekkuzay@gmail.com

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GİRİŞ

Koronavirüs (SARS-COV-2) pandemisi uzun zamandır dünyada gündem oluşturmaya devam etmektedir. SARS-COV-2, bilhassa solunum sistemi üzerinde etkili olarak, SARS (Severe Acute Respiratory Syndrome) ve MERS (Middle East Respiratory Syndrome) benzeri yoğun ve ani gelişen solunum yolu rahatsızlıklarına sebep olur.[1, 2] Yayılma potansiyeli bireyler arasında aynı derecede olan virüs, ileri yaş bireylerde ölüme daha sık sebep olabilmektedir.[3, 4] SARS-COV-2 pandemisi diğer her hastalıklarda olduğu gibi fiziki rahatsızlıklar yanında ruhsal sıkıntıları da beraberinde getirmektedir. Global olarak önemli sayıda ölümlere sebep olan korona virüsünün, yayılma ve tedavi yolları hakkında da uzmanların farklı görüşler paylaşmaları hastalık konusunda anlam bulanıklığını, dolayısıyla da çekinceyi artırdığı görülmektedir. Yapılan vurgulamalarda SARS-COV-2 salgınının ruhsal tesirlerinin büyüklüğü bildirilmekte ve bu türden korkuların değerlendirilmesinin hatırı sayılır derecelerde olduğu rapor edilmektedir.[5]

Hemen hemen her ülkeyi etkileyen Koronavirüs hastalığı (COVİD-19) bireylerin günlük hayatlarında kayda değer değişiklikler meydana getirmiştir. Global seviyede bütün ülkeler bu virüsün yayılım hızını düşürmek amacıyla tedbirler almışlardır. Bu kapsamda sosyal mekânlarda tam kapanma ve işyerleri, okullar gibi sosyal ortamlara gitme yasakları hayata geçirilmiş ve uygulanmıştır. Türkiye'de de uygulama alanı bulan birtakım yasaklar; dış hat uçuşlarının iptali, online eğitime geçilmesi, büyük çapta organizasyonların ertelenmesi, muhtemel yoğun etkileşim dönemlerinde sokağa çıkış kısıtlamasının uygulaması, birtakım iş kollarında evden veya esnek çalışma yöntemine geçilmesi, ibadethanelerin kullanımına kısıtlar getirilmesi, pandemi kurallarının anonslarla anımsatılması ve maske kullanmadan sosyal alanlara çıkışın yasaklanması şeklindeki tedbirlerdir.[6]

Bütün bu değişiklikler kişilerde ruhsal problemlere sebep olmuştur. Bu problemlerin temellerini kaybedilen işler, azalan sosyal faaliyetler ve sokağa çıkma yasakları oluşturmaktadır. Örneğin, Amerika Birleşik Devletleri (ABD)'nden ulaşan son raporlarda, SARS-COV-2'nin bulaşmasından endişe duyan ABD vatandaşlarının oranı %69.8'e çıkarken kaygı giderici ilaç reçeteleme oranında %37.7'lik yükselme görülmüş ve yaygın kullanımı olan bir intihar yardım hattı çağrı adedi de normale oranla 75 katına çıkmıştır. COVİD-19 endişesi kaynaklı ABD harici vakalarda çocuklarda panik nöbetleri, korku duyan yetişkinlerde intihar olaylarında rahatsızlık verici artış raporları gelmiştir.[7]

Korkunun, insandan insana farklılık gösteren fiziki ve psikolojik değişiklikler meydana getirmesiyle beraber farklı yansımaları da vardır. Türk Dil Kurumuna göre korkunun tanımı; gerçek ya da olası bir tehlike ile şiddetli bir acı karşısında uyanan ve ağızda kuruma, benizde sararma, coşku, kalp ve solunum hızlanması benzeri belirtilere veya daha karmaşık fiziki değişmelere neden olan duygu şeklinde yapılmaktadır.[8] Kişilerin endişelerinden sıyrılıp ruhsal açıdan güçlü kalmaları, onları hem sağlıkları açısından oluşabilecek risklerden koruyacak hem de salgın sürecini daha kolay aşmalarını sağlayacaktır. Çünkü psikolojik olarak sağlam kişiler ruhsal açıdan da iyimser, sağlıklı ve zorluklara karşı mücadeleci kişiler olarak görülmektedir.[9] Yapılan birçok çalışmada psikolojik açıdan sağlam bireylerin hastalık ve sonrası dönemde fiziksel olarak daha az hasar aldığını göstermiştir.[9-15]

Bizde bu çalışma ile, Türkiye'de yaşayan bireylerin COVİD-19 korku düzeylerini ölçmeyi ve COVİD-19 korku düzeylerinin çeşitli sosyodemografik özelliklere göre incelemeyi amaçladık.

MATERYAL VE METOT

Evren ve Örneklem

Araştırmanın evreni Türkiye'de yaşayan bireylerden oluşmaktadır. Çalışmanın yürütüldüğü dönemde salgının sürdüğü göz önünde bulundurularak 23 Mart-13 Nisan tarihleri arasında katılımcılara internet ve sosyal medya üzerinden ulaşılmıştır. Bunun bir sonucu olarak evren, araştırmacıların sosyal medyadaki erişim alanıyla sınırlanmıştır. Araştırmanın örneklemini, sosyal mecralar vasıtasıyla basit seçkisiz örnekleme yoluyla ulaşılan kişiler oluşturmaktadır. Çalışmanın örneklemini Türkiye'de yaşayan ve bölgesel dağılımları farklı olan 200 gönüllü kişi oluşturmuştur. Katılımcıların demografik özelliklerine gören dağılımları Tablo 1'de sunulmuştur.

Tablo 1: Katılımcıların Demografik Özelliklerine Göre Dağılımları

Demografik Özellikler	Seçenekler	n	%	p değeri
Cinsiyet	Kadın	123	61,5	**p=0.011**
	Erkek	77	38,5	
Yaş grupları	18-44	174	87	p>0.05
	45-64	26	13	
Pandemi Döneminde Gelir Kaybı Yaşadı mı?	Evet	75	37,5	p>0.05
	Hayır	125	62,5	
Evde 18 Yaş Altında Birey Var mı?	Evet	106	53	**p=0.012**
	Hayır	94	47	
Evde 65 Yaş Üstü Birey Var mı?	Evet	22	11	p>0.05
	Hayır	178	89	
Yalnız mı yaşıyor sunuz?	Evet	10	5	p>0.05
	Hayır	190	95	
Aile ile mi yaşıyor sunuz?	Evet	167	83,5	p>0.05
	Hayır	33	16,5	
Kronik Hastalığınız var mı?	Evet	27	13,5	p>0.05
	Hayır	173	86,5	
Hane halkında Kronik Hastalığı Olan Birey var mı?	Evet	87	44,5	p>0.05
	Hayır	113	56,5	
Hane halkında COVID Geçiren Var mı?	Evet	73	36,5	p>0.05
	Hayır	127	63,5	
Hane halkından COVID Nedeniyle Kayıp Var mı?	Evet	10	45	p>0.05
	Hayır	190	95	

n: Kişi Sayısı, %:Yüzde oranı

Araştırmanın Etik Yönü

Bu çalışma prospektif bir anket çalışmasıdır. Çalışma öncesinde Kırşehir Ahi Evran Üniversitesi Tıp Fakültesi Klinik Araştırmalar Etik Kurulundan 23/03/2021 tarihli 2021-06/64 karar numarası ile onay alınmıştır. 'COVİD-19 Korkusu Ölçeği' kullanımı için araştırıcılardan onay maili alınmıştır.

Veri Toplama Araçları

Sosyodemografik Özellikler Formu

Katılımcıların sosyodemografik özelliklerini toplamak amacıyla da ''Sosyodemografik Özellikler Formu'' kullanılmıştır ve katılımcılara çevrimiçi anket yoluyla ulaştırılmıştır. Bu formda çalışmanın hipotezlerini oluşturan sosyodemografik özellikler yer almıştır. Yöneltilen sorular Tablo 1'de yer almaktadır.

COVİD-19 Korkusu Ölçeği

Araştırmada kullanılan ''COVİD-19 Korkusu Ölçeği'' Ahorsu ve arkadaşları tarafından geliştirilmiştir.[16] Yedi maddeden oluşan ve tek boyutlu olan ölçek, 5 puanlık likert tipi derecelendirme sistemine sahiptir. (1: Kesinlikle katılmıyorum ve 5: Kesinlikle katılıyorum). Ölçekten alınabilecek toplam puan 7 ile 35 arasında değişmektedir. Ölçekten alınan toplam puan COVİD-19 korkusu düzeyini

yansıtmaktadır. Ölçekte ters kodlanmış madde bulunmamaktadır.

Ölçeğin Türkçe uyarlamasını ve Türkçe yeterlilik testlerini Bakioğlu ve arkadaşları tarafından yapılmıştır.[17] Ölçeğin Türkçeye uyarlanması aşamasında doğrulayıcı faktör analizi (DFA) ve madde analizi yapılarak Cronbach alfa iç tutarlılık katsayısı hesaplanmıştır. Doğrulayıcı faktör analizi sonucunda uyum iyiliği indekslerinin iyi düzeyde olduğu sonucuna varılmıştır. Maddelerin faktör yük değerlerinin .73 ile .82 arasında değiştiği belirlenmiştir. Tek boyutlu ve 7 maddelik ölçeğin öz değeri 4,12 ve açıklanan toplam varyans %58,86'dır. Ölçek maddelerinin düzeltilmiş madde-toplam korelasyonlarının .62 ile .72 arasında değiştiği ve Cronbach alfa iç tutarlılık katsayısının .88 olduğu belirlenmiştir.

Bu araştırmada toplanan veriler ışığında Cronbach alfa iç tutarlılık katsayısı tekrar hesaplanmıştır.

Ölçeğin tümü için elde edilen Cronbach alfa değerinin .89 olduğu gözlemlenmiştir.

İstatistiksel Analiz

Uygulanan çevrim içi anket sonucunda toplanan veriler, IBM SPSS Statistics (v26) paket programı ile incelenmiştir. Öncelikle katılımcıların demografik dağılımları incelenmiş ve betimsel istatistikler kullanılmıştır. Elde edilen verilerin normal dağılıma uygunluğunun test edilmesi amacıyla Kolmogorov-Smirnov testi uygulanmıştır. Test sonucunda verilerin normal dağılmadığı anlaşılmıştır. Bu nedenle analizlerde parametrik olmayan testler kullanılmıştır. İki değişkenli gruplar arasında korku düzeyleri açısından fark olup olmadığı incelenirken bağımsız iki örneklem t testinin non-parametrik karşılığı olan ‘’Mann Whitney U’’ testi uygulanmıştır. Üç ve daha fazla grubun karşılaştırıldığı durumlarda ise ANOVA testinin non-parametrik karşılığı olan ‘’Kruskall Wallis’’ testi uygulanmıştır. Bütün analizler alpha= 0,05 önem düzeyinde yapılmıştır.

Araştırmanın Kısıtlılıkları

Ankete katılan kadın ve erkek bireylerin sayılarının eşit ya da eşite yakın olmaması, anketin dar bir zaman aralığında uygulanmış olması çalışmamızın kısıtlılığını oluşturmaktadır.

BULGULAR VE TARTIŞMA

Çalışmaya katılan 200 kişinin ölçek skorları analiz edilmiştir. Ölçekten alınan skor ortalamasının 17,49 ± 6,67 (Aritmetik ortalama ± standart sapma) olduğu görülmüştür. Ölçekten alınabilecek minimum skorun 7, maksimum skorun 35 olduğu göz önünde bulundurulduğunda katılımcıların ortaya yakın düzeyde COVİD-19 korkusu yaşadıkları söylenebilir. COVİD-19 korkusu ölçeğinden alınan puanların cinsiyet değişkenine göre incelendiğinde erkek katılımcılara göre kadın katılımcıların COVİD-19 korkusu düzeyinin daha yüksek olduğu görülmüştür ($p<0.05$). (Bakınız Tablo 2).

Tablo 2: COVİD-19 Korku Düzeylerinin Cinsiyete Göre Karşılaştırılması

Cinsiyet	n	$\bar{X}$ ± Ss	p değeri
Kadın	123	18,4±6,86	**0.011**
Erkek	77	15,99±6,09	

n: Kişi Sayısı,

$\bar{X}$±Ss: COVID-19 Korkusu Ölçeğinden Alınan Puanının Aritmetik Ortalaması ± Standart Sapma

Tablo 1’de verilen bilgilere göre, çalışmamızda 18-44 (n=174) ve 45-64 (n=26) yaş gruplarının COVİD-19 korku düzeyleri incelendiğinde bu iki grup arasında anlamlı bir fark olmadığı belirlenmiştir ($p>0.05$). Yapılan istatistiksel incelemeler sonucunda pandemi döneminde gelir kaybı yaşayan ve gelir kaybı yaşamayan iki grup arasında COVİD-19 korkusu düzeyleri bakımından anlamlı bir fark

bulunamamıştır (p>0.05). Hanehalkında 18 yaş altında birey bulunmayan grubun korku düzeylerinin bulunan grubun korku düzeyinden yüksek olduğu gözlenmiştir (p<0.05). Hanehalkında 65 yaş üstünde birey bulunanların COVİD-19 korku düzeyleri ile 65 Yaş Üstünde Birey bulunmayanlar arasında anlamlı fark bulunamamıştır (p>0.05). Yalnız yaşayan bireyler ile yalnız yaşamayan bireylerin COVİD-19 korku düzeylerinin karşılaştırılması sonucunda iki grup arasında anlamlı fark bulunamamıştır (p>0.05). Aile ile yaşayanlar ve aile ile yaşamayanların COVİD-19 korku düzeylerinin arasında anlamlı bir fark bulunamamıştır (p>0.05). Kronik hastalığa sahip kişiler ile kronik hastalığa sahip olmayan kişilerin COVİD-19 korku düzeyleri arasında anlamlı fark bulunamamıştır (p>0.05). Hanehalkında kronik hastalığa sahip birey bulunanlar ile bulunmayanların COVİD-19 korku düzeyleri arasında anlamlı fark bulunamamıştır (p>0.05). Hanehalkında Covid-19 geçiren birey bulunması ile bulunmamasının COVİD-19 korku düzeyleri arasında anlamlı fark bulunamamıştır (p>0.05). Hanehalkında Covid-19 nedeniyle kayıp olan ve olmayanların COVİD-19 korku düzeyleri arasında anlamlı fark bulunamamıştır (p>0.05).

COVİD-19 gibi bulaşıcılığı ve bireylerin hayatını tehdit etme riski oldukça yüksek salgınlarda bireylerin kendileri ve yakınlarının enfekte olmasına dönük korku ve kaygıları bireysel boyuttan toplumsal boyuta taşınmaktadır. Salgın sürecinde korku ve kaygı bir tepki olarak tüm bireylerde gözlenmekle birlikte, bugüne kadar pek çok araştırmada bu korku ve kaygı düzeyini nelerden etkilendiği araştırılmıştır. Salgın hastalık gibi ani bir durum ortaya çıktığında, kişilerin korku ve kaygı duygusu ile korunma ve kaçınma davranışı göstermeleri doğal kabul edilir. Bu konuda yapılan araştırmaların asıl sebebi ise bireylerin korku ve endişe ile hem kendisi hem de toplum için olumsuz davranışalar sergilemesini engellemeye yardımcı olabilmektir.

Araştırmamızda cinsiyetin korku düzeyine etkisini incelediğimizde pek çok yerli ve yabancı çalışmada olduğu gibi kadın katılımcıların korku düzeylerinin erkeklere göre daha yüksek olduğu tespit edilmiştir. Üniversite öğrencileri üzerinde yapılan bir çalışmada kadınların Koronavirüsten korku düzeylerinin erkeklere göre daha fazla olduğu belirlenmiştir.[18] Aynı şekilde Hindistan'da yapılan bir çalışmada kadınların koronavirüse karşı erkeklerden daha büyük bir stres yaşadıkları tespit edilmiştir.[19] Bir başka çalışmada da kadınların koronavirüs korku düzeyinin erkeklerden yüksek olduğunu belirtilmiştir.[20] Bizim çalışmamızdan farklı olarak Doğan ve Düzel 16 Mart-14 Nisan 2020 tarihleri arasında 1500 kişide korku/kaygı ve aşıya yönelik algıyı ölçmeyi hedefleyen 12 ifadeden oluşan 5'li likert tipi ölçek sorusu kullanarak yaptıkları araştırmada erkeklerin kaygı düzeylerinin kadınlara göre daha yüksek olduğunu tespit etmişlerdir. Bunun sebebi olarak erkek bireylerin ekonomik kaygı yaşama oranlarının yüksek olduğunu ifade etmişlerdir.[21]

Çalışmamız sonuçlarına göre 18-44 ve 45-64 yaş gruplarını incelediğimizde gruplar arasında anlamlı farklılık bulunamamıştır. Bakioğlu ve arkadaşları da farklı yaş gruplarının korku düzeyleri arasında anlamlı fark bulamazken.[17] Gencer araştırmasında yaş grupları arasında fark olduğunu ve en yüksek Koronavirüs korkusunu 15-20 yaş aralığında olduğunu belirtmiştir.[20] Bir başka araştırmada Covid-19 kaynaklı olumsuz duygu durumu değişimlerinin özellikle 20-50 yaş arası hastalarda görülme sıklığının daha fazla olduğu belirtilmiştir.[22] Tükel, sunduğu bir raporda Covid-19 karşısında alınan sosyal izolasyon ve yalnızlık gibi önlemlerin olumsuz sonuçlarının özellikle de yaşlı insanlar açısından kritik bir öneme sahip olduğunu ifade etmiştir.[23]

Çalışmamızda pandemi sürecinde gelir kaybı yaşanmanın Koronavirüs korku düzeyine etkisinin olup olmadığı incelendiğinde bir fark olmadığı görülmüştür. Bizim sonuçlarımızın aksine Doğan ve Düzel Türkiye'de ilk vakanın açıklanmasından sonraki hafta yaptıkları araştırmada erkeklerin ekonomik sıkıntı yaşadıkları için Koronavirüs kaygı düzeylerinin kadınlara göre daha yüksek olduğunu belirlemişlerdir.[21] Mertens ve arkadaşları yaptıkları çalışmada ekonomik sıkıntıların insanların Koronavirüs korku düzeylerini arttırdıklarını belirtmişlerdir.[24] Bir başka çalışmada salgındaki ekonomik değişimlere göre Covid-19 korkusu ölçeğinden alınan puanların anlamlı düzeyde farklılaştığı ifade edilmiştir.[25]

Yaptığımız ankette yalnız veya aile ile yaşamanın, ev halkından gününü dışarıda geçiren kişi sayısı ve dışarıda geçirilen gün sayısı ile Koronavirüs korkusu arasında bir ilişki olmadığı görülmüştür. Fakat Doğan ve Düzel'in Türkiye'de pandemi ile mücadelenin ilk haftalarında yaptıkları anket sonuçlarına göre dışarıda insanlarla bir arada bulunmak bireylerin kaygı ve Koronavirüs korkusu düzeylerini büyük ölçüde arttırdığını belirtmişlerdir.[21] Aynı şekilde başka bir araştırmada kamu sektöründe çalışan bireylerin günü dışarda geçirmelerinin sonucunda virüsü aile bireylerine bulaştırma ihtimallerinin kaygı ve korku düzeylerini arttırdığı belirtilmiştir.[26] Hong Kong'da yapılan bir araştırmada çalışmak için dışarıda bulunması gereken insanların koronavirüs nedeniyle mental açıdan daha kötü etkilendikleri ifade edilmiştir.[27]

Çalışmamızda kronik rahatsızlığa sahip olmanın ve ev halkında kronik rahatsızlığa sahip birey bulunuyor olmasının korku düzeyinde bir etkisinin olmadığı tespit edilmiştir. Güloğlu ve arkadaşları yaptığı araştırmada kronik rahatsızlığa sahip olmanın Koronavirüs kaynaklı anksiyete ve umutsuzluğa etkisi olmadığını ancak kronik rahatsızlığa sahip bireylerle birlikte yaşayanların anksiyete düzeylerinin çok yüksek bireyler olduğu belirtilmiştir.[28] Bizim çalışmamız sonuçlarının aksine bir araştırmada kronik hastalığı olan bireylerin Koronavirüs korku düzeyleri daha yüksek çıkmıştır.[17] Aynı şekilde Wang ve arkadaşları, kronik hastalık geçmişi olanların salgın döneminde stres, kaygı ve depresyonu daha yüksek seviyelerde yaşadıklarını belirtmişlerdir.[29] Altundağ yaptığı araştırmada kronik hastalığı olanların hastalığı olmayanlara göre daha fazla Koronavirüs korkusu yaşadığını tespit etmiştir.[25]

Aynı zamanda hane halkında 18 yaş altında birey bulunan katılımcıların korku düzeylerinin hane halkındaki herkesin 18 yaş üstünde olduğu gruptan daha düşük olduğu tespit edilmiştir. Ancak literatürde bu konuda yapılmış bir çalışma bulunmamaktadır.

SONUÇ VE ÖNERİLER

Bu çalışmaya göre Türkiye'de yaşayan bireylerin ortaya yakın düzeyde COVID-19 korkusu yaşadıkları ve kadınların erkeklere kıyasla COVID-19 korkusunun daha yüksek olduğu saptanmıştır. Aynı zamanda hane halkında 18 yaş altında birey bulunan katılımcıların korku düzeylerinin hane halkında 18 yaş altı birey bulunmayan gruptan daha düşük olduğu tespit edilmiştir.

Bireylerin COVID-19 korkusunu değerlendirmek için ileriki zamanlarda daha fazla katılımcı ile ve daha geniş zaman aralığında çalışmaların yapılması önerilebilir.

KAYNAKLAR

1. Brown, K. and Wang, RC. (2020). 'Politics and Science: The Case of China and the Coronavirus'. Asian Affairs, 51 (2), 247-264.
2. Wang D, Zhang, J and Zhao, Y. (2020). 'Clinical Characteristics of 138 Hospitalized Patients with 2019 Novel Coronavirus–infected Pneumonia in Wuhan'. China, 323 (11),1061–1069.
3. Çobanoğlu, N. (2020). 'Bireysel, Profesyonel, Toplumsal, Bilimsel ve Siyasal Etiği Yeniden Sorgulatan COVID-19 Pandemisi'. Anadolu Kliniği Tıp Bilimleri Dergisi, 25 (1), 36-42.
4. World Health Organization. (2021). 'Coronaviruse situation reports'. Erişim Adresi: https://www.who.int/docs/defaultsource/coronaviruse/situationreports/20200121-sitrep-1-2019-ncov.pdf?sfvrsn=20a99c10_4. Erişim Tarihi: 20.04.2021.
5. Pakpour , AH and Griffiths, MD. (2020). 'The fear of COVID-19 and its role in preventive behaviors. Journal of Concurrent Disorders'. Journal of Concurrent Disorders, 2 (1), 58-63.
6. Ayittey, FK, Ayittey, MK, Chiwero, NB Kamasah, JS and Dzuvor, C. (2020). 'Economic Impacts of Wuhan 2019-nCoV on China and the World'. Journal of Medical Wirology, 92 (5), 473-475.
7. Kaba D and Sari BA. (2020). 'Acute stress disorder with panic episodes induced by exposure to COVID-19 outbreak news in a child'. Dusunen Adam: The Journal of Psychiatry and Neurological Sciences, 2 (33), 221-222.
8. Türk Dil Kurumu. (TDK). (2020). 'Korkunun tanımı'. Erişim Adresi: https://sozluk.gov.tr. Erişim tarihi: 20.04.2021.
9. Benard, B. (2005). 'Resiliency: What we have learned'. Environmental Health, and Other Papers, 15 (1), 432-438.
10. Campbell-Sills, L., Cohan, S. L. and Stein, M. B. (2020). 'Relationship of resilience to personality. coping. and psychiatric symptoms in young adults'. Behaviour research and therapy, 44 (4), 585-599.
11. Erarslan, Ö. (2014). Üniversite öğrencilerinde psikolojik sağlamlık ile depresif belirtiler ve yaşam memnuniyeti arasındaki ilişkide benlik saygısı, pozitif dünya görüşü ve umudun aracı rolünün incelenmesi. Yükseklisans Tezi. Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü, Ankara.
12. Rahat, E. (2014). Benlik kurgusu. sosyal destek, başa çıkma stilleri ve yılmazlığın üniversite yaşamına uyumu yordama güçlerinin incelenmesi. Yükseklisans Tezi. Gaziosmanpaşa Üniversitesi Eğitim Bilimleri Enstitüsü, Tokat.
13. Terzi, Ş. (2020). 'Adaptation of resilience scale (RS) to the Turk culture: It's reliability and validity'. Türk Psikolojik Danışma ve Rehberlik Dergisi, 3 (26), 77-86.
14. Theriault, D. (2020). 'Implementation of promising practices for LGBTQ inclusion: A multilevel process. Journal of Park and Recreation'. Administration, 35 (3), 122–134.
15. Yalım, D. (2007). 'Üniversite birinci sınıf öğrencilerinin uyumu: Psikolojik sağlamlık, başa çıkma, iyimserlik ve cinsiyetin rolü'. Yükseklisans Tezi. Orta Doğu Teknik Üniversitesi Sosyal Bilimler Enstitüsü, Ankara.
16. Ahorsu, DK, Lin, CY, Imani, V Saffari M, Griffiths MD and Pakpour AH. (2020). 'The Fear of COVID-19 Scale: Development and Initial Validation'. Int J Ment Health Addict, 27, 1-9.
17. Bakioğlu F, Korkmaz O and Ercan H. (2020). 'Fear of COVID-19 and positivity: Mediating role of intolerance of uncertainty, depression, anxiety, and stress'. Int J Ment Health Addict, 28, 1-14.
18. Öz Ceviz N, Tektaş N, Basmacı G ve Tektaş M. (2020). 'COVID-19 pandemi sürecinde üniversite öğrencilerinin kaygı düzeylerini etkileyen değişkenlerin analizi'. Uluslararası Eğitim Araştırmacıları Dergisi, 3(2), 312-329.
19. Rehman U, Shahnawaz M, Khan N, Kharshiing KD, Khursheed, M, Gupta, K, Kashyap, D and Uniyal R. (2021). 'Depression, Anxiety and Stress Among Indians in Times of Covid 19 Lockdown'. Community Ment Health J, 57 (5), 42-48.
20. Gencer N. (2020). 'Pandemi Sürecinde Bireylerin Koronavirüs (Kovid-19) Korkusu: Çorum Örneği'. USBAD Uluslararası Sosyal Bilimler Akademi Dergisi, 2 (4), 1153-1173.
21. Doğan M ve Düzel B. (2020). 'COVID-19 özelinde korku-kaygı düzeyleri'. Journal of Turkish Studies, 15(4), 739-752.
22. Aslan R. (2020). 'Kovid-19 Fizyoloji ve Psikolojiyi Nasıl Etkiliyor'. Ayrıntı Dergisi, 88 (8), 47-53.
23. Tükel R. (2020). 'Covid-19 Pandemi Sürecinde Ruh Sağlığı'. Türk Tabibler Birliği Covid-19 Pandemisi Değerlendirme Raporu, 6 (1), 617-628.
24. Mertens G, Gerritsen L, Duijndama S, Salemink E and Engelhard I. (2020). 'Fear of the coronavirus (COVID-19): Predictors in an online study conducted in March 2020'. Journal of Anxiety Disorders, 74 (1), 102258.
25. Altundağ Y. (2021). 'Erken Dönem Covid-19 Pandemisinde Covid-19 Korkusu ve Psikolojik Dayanıklılık.' Ekev Akademi Dergisi, 85(1), 499-516.
26. Yılmaz B. (2020). 'COVID-19 Pandemi Sürecinin Çalışanlar Üzerine Etkisi: Kamu Sektöründe Çalışanlar Üzerine Uygulamalı Bir Araştırma'. Üçüncü Sektör Sosyal Ekonomi Dergisi, 55(3), 1724-1740.
27. Choi EPH, Hui BPH and Wan EYF. (2020). 'Depression and Anxiety in Hong Kong during COVID-19'. International Journal of Environmental Research and Public Health, 17 (10), 3740.
28. Güloğlu B, Yılmaz Z, İstemihan F, Arayıcı S ve Yılmaz S. (2020). 'COVID-19 Pandemisi Sürecinde Bireylerdeki Anksiyete ve Umutsuzluk Düzeylerinin İncelenmesi'. Kriz Dergisi, 28(3):135-150.
29. Wang C, Pan R, Wan X, Tan Y, Xu L , Ho CS and Ho RC. (2020). 'Immediate Psychological Responses and Associated Factors During the Initial Stage of the 2019 Coronavirus Disease (COVID-19) Epidemic Among the General Population in China'. International Journal of Environmental Research and Public Health, 17(1729), 1-25.

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Riskli Gebelerin Algıladığı Stres ve Eş Desteği Arasındaki İlişkinin İncelenmesi

Investigation of the Relationship Between the Perceived Stress and Spousal Support of Women with Risky Pregnancy

Nazlı BALTACI[1], Ayşe METİN[2]

ÖZ

Bu araştırma, riskli gebelerin algıladığı stres ve eş desteği düzeylerini ve bunlar arasındaki ilişkiyi belirlemek amacıyla yapılmıştır. Tanımlayıcı ve kesitsel tipte olan araştırma, Türkiye'nin Karadeniz Bölgesi'nde yer alan bir hastanenin kadın doğum kliniğinde yatan 253 gebe ile yapılmıştır. Veriler "Gebe Tanıtım Formu", "Neuman Sistemler Modeline Temellenen Riskli Gebeliklerde Algılanan Stres Ölçeği (NSMt-RGASÖ)" ve "Gebelikte Eş Desteği Algısı Ölçeği (GEDAÖ)" ile toplanmıştır. Veriler "tanımlayıcı istatistikler, bağımsız örneklem t testi, tek yönlü varyans analizi, Tukey HSD testi ve pearson korelasyon analizi" ile değerlendirilmiştir. Gebelerin NSMt-RGASÖ toplam puan ortalaması 62,57±10,13 ve GEDAÖ toplam puan ortalaması 35,20±9,31 olarak bulundu. Gebelerin eşi ile ilişkisi, gebelik planı, daha önce hastane yatışı, gebelikte bakım ve doğuma hazırlık eğitimi alması durumu ile NSMt-RGASÖ puanları arasında istatistiksel olarak anlamlı fark saptandı ($p<0,05$). Gebelerin tıbbi tanısı, daha önce hastane yatışı, gebelikte bakım ve doğuma hazırlık eğitimi alması durumu ile GEDAÖ puanları arasında istatistiksel olarak anlamlı fark saptandı ($p<0,05$). Gebelerin NSMt-RGASÖ toplamı ve "fizyolojik alan" alt boyutu ile GEDAÖ'nün "bilişsel destek" alt boyutu arasında zayıf düzeylerde negatif yönlü anlamlı ilişki belirlendi (sırasıyla $p=0,043$, $p=0,023$). Gebelerin algıladığı stresin ve gebelikte algıladıkları eş desteğinin düşük düzeylerde olduğu; gebelik sürecinde algıladıkları eş desteği arttıkça algıladıkları stresin azaldığı ortaya çıkmıştır.

Anahtar Kelimeler: Eş desteği, Riskli gebelik, Sosyal destek, Stres

ABSTRACT

This study was conducted to determine the perceived stress and spousal support levels of women with risky pregnancy and the relationship between these. This descriptive and cross-sectional study was conducted with 253 pregnant women hospitalized in the obstetrics clinic of a hospital in the Black Sea Region of Turkey. The data were collected with "Pregnant Information Form", "Perceived Stress in Risky Pregnancies Scale based on the Neuman Systems Model (NSMb-PSRPS)" and "Perception of Spousal Support in Pregnancy Scale (PSSPS)". The data were evaluated with "descriptive statistics, independent samples t-test, one-way variance analysis, Tukey HSD test and Pearson Correlation Analysis". NSMb-PSRPS total mean score of pregnant women was found as 62.57±10.13, while their PSSPS total mean score was found as 35.20±9.31. Statistically significant difference was found between pregnant women's NSMb-PSRPS scores and their relationship with their spouses, pregnancy plan, previous hospitalization, the state of receiving care and preparation education for delivery during pregnancy ($p<0.05$). Statistically significant difference was found between pregnant women's PSSPS scores and their medical diagnosis, previous hospitalization and the state of receiving care and preparation education for delivery during pregnancy ($p<0.05$). Weak negative correlation was found between NSMb-PSRPS total mean score of pregnant women and "physiological domain" factor and "cognitive support" factor of PSSPS ($p=0.043$, $p=0.023$, respectively). It was found that pregnant women had low levels of perceived stress and low levels of perceived spousal stress in pregnancy and the stress they perceived decreased as their perceived spousal support during pregnancy increased.

Keywords: Risky pregnancy, Social support, Spousal support, Stress

[1] Doç. Dr. Nazlı BALTACI, Doğum ve Kadın Hastalıkları Hemşireliği, Ondokuz Mayıs Üniversitesi Sağlık Bilimleri Fakültesi Hemşirelik Bölümü, ORCID: 0000-0001-8582-6300
[2] Dr. Öğr. Üyesi Ayşe METİN, Doğum ve Kadın Hastalıkları Hemşireliği, Erzurum Teknik Üniversitesi Sağlık Bilimleri Fakültesi Hemşirelik Bölümü, ORCID: 0000-0003-2261-4364
İletişim / Corresponding Author: Doç. Dr. Nazlı BALTACI
e-posta/e-mail: baltacinazli@gmail.com
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GİRİŞ

Riskli gebelik hem kadının, hem de bebeğin sağlığını tehdit eden fizyopsikososyal kritik bir durumdur.[1] Gebeliği riskli olan kadınlar; gebeliğini riske sokan durumlar ve hospitalizasyon nedeniyle yaygın olarak stres yaşamaktadır.[1-3] Bu gebelerin rutin yaşam ritminin bozulması, doğuma ilişkin korkuları, planlı bir gebeliğe sahip olmaması, eşiyle ilişkisel ya da maddi sorunlar yaşaması, bebeğinin yaşamı ve sağlığına ilişkin belirsizlik süreci, yeterli sosyal destek alamaması gibi birçok faktör ise diğer önemli stresörlerdir.[1-5] Gebelikte stres doğumun ilk evresinde uzama, doğumda analjezi kullanımı, plasental kan akımının azalması, preterm doğum, abortus, fetüste bilişsel, nörolojik ve davranışsal gelişim geriliği, düşük doğum ağırlığı, zayıf prenatal bağlanma, uyku sorunları, postnatal depresyon gibi birçok sorunla ilişkili olarak anne ve fetüsün sağlığını olumsuz etkilemektedir.[6] Amerikan Obstetri ve Jinekoloji Birliği, perinatal dönemde en az bir kez anne ruh sağlığı taramasını ve gereksinimi olan kadınlar için takibini önermektedir.[7]

Literatürde gebelerin genellikle eş desteğine ihtiyacı olduğu, gebelikte eş desteğinin maternal iyi oluşu ve yaşam kalitesini yükselttiği, annelik ve babalık rollerine uyumu olumlu etkilediği, stres ve depresyonu azalttığı vurgulanmıştır.[8-11] Gebelikte yetersiz eş desteğinin ise kadınlarda hipertansiyona, zor doğum eylemine, doğum sonu kanama ve psikoz sıklığında artışa; bebeklerde düşük doğum ağırlığı, distres ve prematüriteye neden olabileceği ve maternal-fetal bağlanmayı olumsuz etkilediği belirtilmiştir.[9, 12, 13] Fakat gebelikte eş desteği; gebelik izlemlerine ve doğum odalarına babaların alınmaması, önceliğin anne-bebek sağlığına ve antenatal eğitimlerde kadına verilmesi gibi birçok faktörden olumsuz etkilenmektedir.[14] Yapılan bazı çalışmalarda ise gebelerin algıladıkları sosyal destek ile stresle başetme durumları arasında ilişki olduğu belirtilmiştir.[15, 16] Gebelikte en etkili sosyal desteğin ise eş/partner desteği olduğu bildirilmiştir.[17]

Sağlık profesyonelleri baba adaylarının gebelikteki işbirliğini ve bunun anne, bebek ve aile sağlığına etkilerini pek dikkate almamaktadır. Antenatal bakım sürecinde sağlık bakım profesyonellerinin, özellikle riskli gebelerin stres ve eş desteği düzeylerini değerlendirmeleri, eş desteğine ilişkin farkındalık kazanmaları ve kazandırmaları, gebelerin olumlu başetme mekanizmaları geliştirmelerini sağlayarak streslerini azaltmaları gerekmektedir.[10, 16] Hemşireler antenatal dönemde planlayacakları önleyici bakım uygulamaları ile kadınların gebelikte strese neden olabilecek ve eş desteğini azaltabilecek durumları saptayabilir ve stresli gebeleri kanıta dayalı uygulamaları bakıma entegre ederek destekleyebilir.[1] Bu yönde araştırmanın riskli gebelere sağlık hizmeti sunan tüm sağlık profesyonellerine yol gösterici olacağı düşünülmektedir. Bu nedenlerle çalışmanın amacı, riskli gebelerin algıladığı stres ve eş desteği düzeylerini ve bunlar arasındaki ilişkiyi belirlemektir.

Araştırma soruları:

- Riskli gebelerin algıladığı stres düzeyi nasıldır?
- Riskli gebelerin algıladığı eş desteği düzeyi nasıldır?
- Riskli gebelerin algıladığı stres ve eş desteği düzeyleri ile ilişkili faktörler nelerdir?
- Riskli gebelerin algıladığı stres ve eş desteği arasında ilişki var mıdır?

MATERYAL VE METOT

Araştırmanın Tipi

Bu çalışma tanımlayıcı ve kesitsel nitelikte bir araştırmadır.

Evren ve Örneklem

Araştırmanın evrenini 23.06.2022-30.10.2022 tarihleri arasında Türkiye'nin

kuzeyinde yer alan bir üniversite hastanesinin kadın doğum kliniğinde yatan riskli gebeler oluşturmuştur. Araştırmadan önceki son 3 ay içerisinde bu kadın doğum kliniğinde 600 riskli gebe tedavi edilmiştir. Evren sayısının bilindiği durumda örneklem hacminin hesaplanması sonucunda 600 kişilik evren için ulaşılması gereken minimum örneklem hacmi, α:0,05 hata katsayısı ve %95 güven aralığında 230 gebe olarak belirlenmiş olup %10 olası veri kaybı dikkate alınarak en az 253 gebe olasılıksız gelişigüzel örnekleme yöntemi ile araştırma kapsamına alınmıştır. Bu durumda araştırmanın örneklemini, araştırmaya alınma kriterlerine uyan ve veri toplama formlarını eksiksiz yanıtlayan 253 gebe oluşturmuştur. Araştırmaya katılmayı isteyen, riskli gebe olan, hastanede yatan, 18 yaş ve üzerinde olan, Türkçe okuma-yazma bilen ve iletişim kurulabilen gebeler alınmıştır. Mental, bilişsel, psikiyatrik, işitme ve görme sorunları olan gebeler ise araştırmadan dışlanmıştır.

Verilerin Toplanması

Araştırmanın verileri "Gebe Tanıtım Formu", "Neuman Sistemler Modeline Temellenen Riskli Gebeliklerde Algılanan Stres Ölçeği (NSMt- RGASÖ)" ve "Gebelikte Eş Desteği Algısı Ölçeği (GEDAÖ)" ile toplanmıştır. Veriler hastanede gebelere bilgilendirme yapılarak çalışmaya katılmaya gönüllü olanlar ile yüz yüze toplanmıştır. Gebeler anket formlarını kendi bildirimleri yoluyla ortalama 10 dakika sürecek şekilde doldurmuştur.

Gebe Tanıtım Formu

Gebe Tanıtım Formu, araştırmacılar tarafından literatür doğrultusunda oluşturulan, gebelerin sosyodemografik ve obstetrik özelliklerini içeren toplam 24 sorudan oluşmaktadır.[15, 16]

Neuman Sistemler Modeline Temellenen Riskli Gebeliklerde Algılanan Stres Ölçeği (NSMt- RGASÖ)

Metin ve Kulakaç tarafından 2023 yılında geliştirilen ölçek, Neuman sistemler modelinde yer alan "fizyolojik, psikolojik, sosyokültürel, gelişimsel ve spiritüel" olmak üzere riskli gebelerin beş alandaki stres algılarını belirlemeye yöneliktir. Toplam 34 maddeden oluşan ve 5'li likert tipinde olan ölçek, "(1) hiçbir zaman" ile "(5) her zaman" arasında derecelendirilmektedir. Ölçeğin fizyolojik alan alt boyutu, psikolojik alan alt boyutu, sosyokültürel, gelişimsel ve spiritüel alan alt boyutu olmak üzere üç alt boyutu bulunmaktadır. Ölçeğin toplamından ve alt boyutlarından alınan puanın yüksek olması, genel olarak ya da bahsedilen yaşam alanında algılanan stresin yüksek olduğunu göstermektedir. Ölçeğin 22, 30, 31, 32 ve 33. maddeleri tersine kodlanmaktadır. Ölçekten en düşük 34 ve en yüksek 170 puan alınabilmektedir. Ölçeğin Cronbach alfa değeri 0,87 olarak bulunmuştur.[18] Bu çalışmada ise Cronbach alfa değeri 0,79 olarak bulunmuştur.

Gebelikte Eş Desteği Algısı Ölçeği (GEDAÖ)

Yurdakul ve arkadaşları (2020) tarafından geliştirilen 5'li likert tipindeki ölçek, 16 maddeden oluşmaktadır. Ölçeğin "bilişsel destek, duygusal destek ve maddi destek" olmak üzere üç alt boyutu bulunmaktadır. Ölçeğin toplamından en düşük 16 puan ve en 80 puan alınabilmektedir. Ölçekten alınan puanların yüksekliği, gebelikte algılanan eş desteğinin yüksek olduğunu göstermektedir. Ölçeğin Cronbach alfa değeri 0,89 olarak bulunmuştur.[17] Bu çalışmada ise Cronbach alfa değeri 0,96 olarak bulunmuştur.

Araştırmanın Etik Yönü

Araştırma boyunca insan denekler üzerinde yapılan araştırmalara ilişkin Helsinki Bildirgesi ve İnsan Hakları Evrensel Bildirgesi'ne uyulmuştur. Araştırmanın yapılabilmesi için Ondokuz Mayıs Üniversitesi Sosyal ve Beşeri Bilimler Araştırmaları Etik Kurulu'ndan 27.05.2022 tarih ve 2022-507 sayılı etik kurul onayı ve ilgili kurumdan izin alınmıştır. Araştırma gönüllülük esasına uygun olarak yürütülmüş, araştırma öncesi gebelerin yazılı bilgilendirilmiş onamları alınmıştır. Araştırmada kullanılan ölçeklere ilişkin ölçek sahiplerinden mail aracılığıyla izin alınmıştır.

Verilerin Değerlendirilmesi

Verilerin değerlendirilmesinde SPSS (Statistical Package for the Social Sciences) 23,0 paket programı kullanmıştır. Öncelikle Kolmogorov Smirnov testi ile verilerin normal dağılıma uygunluğu değerlendirilmiştir. Verilerin analizi "sayı, yüzde, ortalama, standart sapma, minimum ve maksimum değerler" gibi tanımlayıcı istatistikler, "bağımsız örneklem t testi, tek yönlü varyans analizi (ANOVA), Tukey HSD testi ve pearson korelasyon analizi" ile yapılmıştır. Ölçeğin güvenirlilik analizinde Croncbach alfa katsayı hesaplanmıştır. Sonuçlar $p<0,05$ anlamlılık düzeyinde değerlendirilmiştir.

Araştırmanın Kısıtlılıkları

Bu araştırmanın sonuçları yalnızca araştırmaya katılan riskli gebe kadınların yanıtlarını yansıttığından dolayı tüm topluma genellenemez.

Teşekkür

Çalışmaya katılan tüm gebe kadınlara teşekkür ederiz.

BULGULAR VE TARTIŞMA

Gebelerin sosyodemografik ve obstetrik özelliklerinin dağılımı Tablo 1'de verildi. Gebelerin yaş ortalaması 30,88±5,18 yıl ve evlilik süresi ortalaması 7,96±5,15 yıl olarak bulundu. Gebelerin %37,2'si ilköğretim mezunu olduğunu, %83,4'ü çalışmadığını, %96,4'ü gelirinin giderine eşit olduğunu, %77,1'i ilçede yaşadığını, %74,7'si eşinin serbest mesleği olduğunu ve %98,4'ü eşiyle ilişkisinin iyi olduğunu ifade etti. Obstetrik özellikler incelendiğinde ise gebe kadınların gebelik haftası ortalaması 27,67±9,50, gebelik sayısı ortalaması 2,97±1,17, doğum sayısı ortalaması 1,44±1,13, yaşan çocuk sayısı ortalaması 1,18±0,96 ve hastanede yatış süresi ortalaması 1,41±1,31 gün idi. Gebelerin çoğunluğunun (%33,6) erken doğum tehdidi tanısıyla hastane yattığı, %52,2'sinin önceki gebeliğinde riskli bir durum ve bebek kaybı yaşadığı, %94,5'inin planlı gebeliği olduğu, %83,8'inin daha önce hastanede yatmadığı, %51,8'inin hospitalizasyon sürecinde sağlık çalışanlarından yeterli bakım ve destek almadığı, %70,8'inin gebelikte bakım ve doğuma hazırlık eğitimi almadığı belirlendi (Tablo 1). Gebelerin tümü gebelik izlem ve bakımını düzenli şekilde yaptırdığını belirtti.

Gebelerin NSMt-RGASÖ, GEDAÖ ve alt boyutlarına ilişkin puan ortalamalarının dağılımı ise Tablo 2'de verildi. Gebelerin NSMt-RGASÖ toplam puan ortalaması 62,57±10,13 ve GEDAÖ toplam puan ortalaması 35,20±9,31 olarak bulundu (Tablo 2). Buna göre gebelerin algıladığı stres orta düzeyde ve gebelikte algıladıkları eş desteği ortalamanın altında / düşük düzeylerdeydi.

Tablo 1. Gebelerin sosyodemografik ve obstetrik özelliklerinin dağılımı (N =253)

Özellikler		X±SS	Min.-Mak.
Yaş (yıl)		30,88±5,18	18-43
Evlilik yılı (yıl)		7,96±5,15	1-30
Hastanede yatış süresi (gün)		1,41±1,31	1-12
Gebelik haftası		27,67±9,50	10-40
Gebelik sayısı		2,97±1,17	1-6
Doğum sayısı		1,44±1,13	0-5
Yaşayan çocuk sayısı		1,18±0,96	0-5
		n	**%**
Eğitim durumu	İlköğretim	94	37,2
	Ortaöğretim	86	34,0
	Yükseköğretim	73	28,8
Çalışma durumu	Çalışıyorum	42	16,6
	Çalışmıyorum	211	83,4
Gelir durumu	Gelir giderden düşük	9	3,6
	Gelir gidere eşit	244	96,4
Yaşanan yer	Köy/kasaba	4	1,6
	İlçe	195	**77,1**
	İl merkezi	54	21,3

Tablo 1. Gebelerin sosyodemografik ve obstetrik özelliklerinin dağılımı (N =253) (Devamı)

Özellikler		n	%
Sosyal güvence	Var	242	95,7
	Yok	11	4,3
Eş eğitim durumu	İlköğretim	74	29,2
	Ortaöğretim	88	34,8
	Yükseköğretim	91	36,0
Eş meslek	İşçi	6	2,4
	Serbest meslek	189	74,7
	Memur	58	22,9
Aile tipi	Çekirdek	248	98,0
	Geniş	5	2,0
Eş ile ilişkisi	İyi	249	98,4
	Kötü	4	1,6
Tıbbi tanı	EDT	85	33,6
	Hipertansif hastalıklar	40	15,8
	Servikal yetmezlik	4	1,6
	Plasental anomaliler	7	2,8
	Rh uyuşmazlığı	10	4,0
	Amniyon mayi anomalileri	7	2,8
	Kronik hastalıklar	35	13,8
	Hiperemezis gravidarum	27	10,6
	Diğer	38	15,0
Önceki gebeliğinde riskli durum*	Yaşandı	132	52,2
	Yaşanmadı	114	45,1
Önceki gebeliğinde bebek kaybı*	Yaşandı	132	52,2
	Yaşanmadı	114	45,1
Gebelik planı	Planlı	239	94,5
	Plansız	14	5,5
Daha önce hastane yatışı	Var	41	16,2
	Yok	212	83,8
Hospitalizasyon sürecinde sağlık çalışanlarından yeterli bakım ve destek	Alıyor	122	48,2
	Almıyor	131	51,8
Gebelikte bakım ve doğuma hazırlık eğitimi	Aldı	74	29,2
	Almadı	179	70,8

n: sayı; %: yüzde; X ± SS: Ortalama ± standart sapma; Min.-Mak.: Minimum-Maksimum
**Değerlendirmeye birden fazla gebeliği olan 246 gebe kadın alınmıştır.*

Tablo 2. Gebelerin NSMt-RGASÖ, GEDAÖ ve Alt Boyutlarına İlişkin Puan Ortalamalarının Dağılımı (N=253)

Ölçekler	X±SS	Ortanca	Minimum	Maksimum
NSMt-RGASÖ toplam	62,57±10,13	60	44	123
Fizyolojik alan	19,37±4,67	19	9	37
Psikolojik alan	16,70±4,91	16	12	47
Sosyokültürel, gelişimsel ve spiritüel alan	26,50±3,34	26	18	45
GEDAÖ toplam	35,20±9,31	34	16	80
Bilişsel destek	12,38±3,54	12	6	30
Duygusal destek	12,11±3,25	12	5	25
Maddi destek	10,71±3,12	10	5	25

Min.-Mak.: Minimum-Maksimum; X ± SS: Ortalama ± standart sapma

Gebelerin sosyodemografik ve obstetrik özelliklerine göre NSMt-RGASÖ ve GEDAÖ puan ortalamalarının karşılaştırılması Tablo 3'de verildi. Gebelerin yaşadığı yer, eşi ile ilişkisi, gebelik planı, daha önce hastane yatışı, gebelikte bakım ve doğuma hazırlık eğitimi alması durumu durumu ve yaşayan çocuk sayısı ile NSMt-RGASÖ puanları arasında istatistiksel olarak anlamlı fark saptandı (p<0,05). Gebelerin çalışma durumu, tıbbi tanısı, daha önce hastane yatışı, gebelikte bakım ve doğuma hazırlık eğitimi alması durumu ile GEDAÖ puanları arasında istatistiksel olarak anlamlı fark saptandı (p<0,05). Bunların yanı sıra yaşayan çocuk sayısı arttıkça riskli gebeliklerde algılanan stresin arttığı bulundu (r=0,144, p=0,022). Evlilik yılı, hastanede yatış süresi, gebelik, doğum ve çocuk sayısı arttıkça riskli gebeliklerde eş desteği algısının arttığı saptandı (sırasıyla r=0,143, p=0,023; r=0,217, p=0,000; r=0,179, p=0,004; r=0,201, p=0,001; r=0,181, p=0,004) (Tablo 3).

Tablo 3. Gebelerin Sosyodemografik ve Obstetrik Özelliklerine göre NSMt-RGASÖ ve GEDAÖ Puan Ortalamalarının Karşılaştırılması (N=253)

Özellikler		NSMt-RGASÖ X±SS	Test; p değeri	GEDAÖ X±SS	Test; p değeri
Eğitim durumu	İlköğretim	63,32±9,45	F=0,574	37,01±11,01	F=2,903
	Ortaöğretim	61,70±9,33	0.564	34,36±7,02	0,057
	Yükseköğretim	62,63±11,81		33,87±9,05	
Çalışma durumu	Çalışıyorum	60,57±7,03	t=-1,407	32,33±8,56	t=-2,204
	Çalışmıyorum	62,97±10,61	0,161	35,77±9,37	**0,028**
Gelir durumu	Gelir giderden düşük	68,22±14,93	t=1,166	38,00±20,49	t=0,423
	Gelir gidere eşit	62,36±9,89	0,276	35,10±8,71	0,683
Yaşanan yer	Köy/kasaba	67,75±15,88[ab]	F=8,512	27,50±7,68	F=1,795
	İlçe	61,18±7,84 [a]	**0,000**	35,60±7,41	0,168
	İl merkezi	67,22±14,74 [b]		34,33±14,21	
Sosyal güvence	Var	62,54±10,15	t=-0,202	35,00±9,22	t=-1,618
	Yok	63,18±10,16	0,840	39,63±10,59	0,107
Eş eğitim durumu	İlköğretim	62,71±9,58	F=0,226	35,90±11,33	F=0,300
	Ortaöğretim	62,01±9,62	0,798	35,00±8,71	0,741
	Yükseköğretim	63,01±11,09		34,83±8,05	
Eş meslek	İşçi	67,16±10,28	F=1,124	37,33±21,97	F=0,160
	Serbest meslek	62,11±9,33	0,327	35,14±8,91	0,852
	Memur	63,62±12,38		35,18±8,86	
Aile tipi	Çekirdek	62,25±9,48	t=-1,470	35,08±8,85	t=-0,568
	Geniş	78,40±24,52	0,215	41,20±24,03	0,600
Eş ile ilişkisi	İyi	62,23±9,66	t=-4,359	34,77±8,43	t=-2,517
	Kötü	83,75±17,28	**0,000**	61,75±21,40	0,086
Tıbbi tanı	EDT	63,24±12,42		35,05±9,57 [ab]	
	Hipertansif hastalıklar	61,12±7,31	F=0,790	36,67±10,53[ab]	F=2,140
	Servikal yetmezlik	65,00±6,05	0,612	32,25±6,23 [ab]	**0,033**
	Plasental anomaliler	69,85±7,47		31,71±8,45 [ab]	
	Rh uyuşmazlığı	63,50±6,63		34,40±6,76 [ab]	
	Amniyon mayi anomalileri	59,14±7,92		34,42±4,15 [ab]	
	Kronik hastalıklar	62,02±9,14		36,74±6,11[ab]	
	Hiperemezis gravidarum	61,44±9,29		39,29±12,12[a]	
	Diğer	62,71±10,22		30,97±7,83[b]	
Önceki gebeliğinde riskli durum*	Yaşandı	62,58±10,06	t=0,477	35,15±9,59	t=-0,463
	Yaşanmadı	61,97±9,90	0,634	35,69±8,61	0,644
Önceki gebeliğinde bebek kaybı*	Yaşandı	62,78±10,53	t=0,824	34,83±8,85	t=-1,051
	Yaşanmadı	61,73±9,29	0,411	36,06±9,45	0,294
Gebelik planı	Planlı	61,71±8,31	t=-2,648	34,69±8,27	t=-1,879
	Plansız	77,28±21,91	**0,020**	44,00±18,43	0,082
Daha önce hastane yatışı	Var	69,46±14,86	t=3,437	35,85±8,62	t=-2,563
	Yok	61,24±8,35	**0,001**	31,82±11,84	**0,011**
Hospitalizasyon sürecinde sağlık çalışanlarından yeterli bakım ve destek	Alıyor	63,70±11,61	t=1,696	35,49±9,97	t=0,471
	Almıyor	61,52±8,44	0,091	34,93±8,69	0,638
Gebelikte bakım ve doğuma hazırlık eğitimi	Aldı	59,82±5,53	t=-3,659	38,31±5,57	t=4,380
	Almadı	63,71±11,33	**0,000**	33,92±10,22	**0,000**
Yaş (yıl)			r= -0,004; 0,947		r=0,075; 0,235
Evlilik yılı (yıl)			r=0,086; 0,174		r=0,143; **0,023**
Hastanede yatış süresi (gün)			r= -0,106; 0,091		r=0,217; **0,000**
Gebelik haftası			r= -0,021; 0,743		r= -0,082; 0,196
Gebelik sayısı			r=0,056; 0,371		r= 0,179; **0,004**
Doğum sayısı			r= 0,070; 0,270		r=0,201; **0,001**
Yaşayan çocuk sayısı			r= 0,144; **0,022**		r= 0,181; **0,004**

X ± SS: Ortalama ± standart sapma; [ab] Tukey HSD testine göre farklılıkların gösterimi; F:Tek yönlü varyans analizi; t: Bağımsız örneklem t testi; r:Pearson korelasyon analizi

**Değerlendirmeye birden fazla gebeliği olan 246 gebe kadın alınmıştır.*

Gebelerin NSMt-RGASÖ, GEDAÖ ve alt boyutlarına ilişkin puanlar arasındaki korelasyon değerleri Tablo 4'de verildi. Gebelerin NSMt-RGASÖ toplamı ve "fizyolojik alan" alt boyutu ile GEDAÖ'nün "bilişsel destek" alt boyutu arasında zayıf düzeylerde negatif yönlü anlamlı ilişki belirlendi (sırasıyla p=0,043, p=0,023). Bunun yanı sıra gebelerin NSMt-RGASÖ'nün "fizyolojik alan" alt boyutu ile GEDAÖ toplamı arasında zayıf düzeyde negatif yönlü anlamlı ilişki bulundu

(p=0,050) (Tablo 4). Buna göre gebe kadınların gebelik sürecinde algıladıkları eş desteği ve özellikle bilişsel anlamda eş desteği arttıkça algıladıkları toplam stres düzeyi ve fizyolojik alana ilişkin stres düzeyi azalmaktadır.

Tablo 4. Gebelerin NSMt-RGASÖ, GEDAÖ ve Alt Boyutlarına İlişkin Puanlar Arasındaki Korelasyon Değerleri (N=253)

Ölçekler*		NSMt-RGASÖ toplam	Fizyolojik alan	Psikolojik alan	Sosyokültürel, gelişimsel ve spiritüel alan
GEDAÖ toplam	r **	0,064	-0,120	0,011	0,011
	p	0,311	**0,050**	0,867	0,867
Bilişsel destek	r **	-0,127	-0,143	0,080	0,068
	p	**0,043**	**0,023**	0,203	0,281
Duygusal destek	r **	-0,031	0,083	-0,085	-0,084
	p	0,625	0,191	0,178	0,182
Maddi destek	r **	0,079	0,110	0,029	0,042
	p	0,213	0,081	0,646	0,506

** Pearson korelasyon analizi; ** Korelasyon katsayısı "(r=0,00-0,25 çok zayıf, r=0,26-0,49 zayıf, r=0,50-0,69 orta, r=0,70-0,89 yüksek, r=0,90-1,00 çok yüksek)"*

Riskli gebelerin algıladığı stres ve eş desteği düzeylerini ve bunlar arasındaki ilişkiyi belirlemek amacıyla yapılan çalışmanın bulguları literatür doğrultusunda tartışılmıştır. Gebelik dönemi herhangi bir risk olmasa da stresli bir süreç olarak bilinmektedir. Gebelikte riskli bir durumun varlığı süreci daha karmaşık hale getirerek gebenin "fizyolojik, psikolojik, sosyokültürel, gelişimsel ve spiritüel yaşam alanları"nda çeşitli düzeylerde stres algılamalarına neden olmaktadır.[18] Bu durumun gebelerin eşlerinden bilişsel, duyuşsal ve maddi destek gibi beklentilerini etkileyebileceği düşünülmüştür. Bu çalışmada riskli gebeliklerde algılanan stres tüm yaşam alanlarına göre ele alınarak eş desteği ile ilişkisi incelenmiştir.

Çalışmada riskli gebelerin algıladıkları strese bakıldığında NSMt-RGASÖ toplam puan ortalamasının ortalama bir değerde olduğu tespit edilmiştir. Özbek ve Beydağ (2021)[19] tarafından yapılan bir çalışmada da benzer şekilde riskli gebelerde stres incelenmiş ve çalışmamızdan farklı bir ölçüm aracına göre puan ortalamasının ortalamaya yakın bir değerde olduğu görülmüştür. Gebelerin stres algılarının orta düzeyde olmasının, toplumumuzda özellikle riskli gebelere gösterilen özenle ilgili olduğu düşünülmektedir. Gebelikte algılanan yüksek stresin olumsuz doğum sonuçları üzerindeki etkisi düşünüldüğünde stresin orta düzeyde olması iyimser bir tablo oluşturmaktadır.[18, 20] Ding ve arkadaşlarının (2021) 31 çalışmayı dahil ederek yaptıkları sistematik derleme ve meta analiz çalışmasında, gebelikte yaşanan stresli yaşam olaylarının riskli durumlara neden olduğu gösterilmiştir.[20] Öte yandan riskli gebelik de başlı başına stresi artıran bir durum olarak karşımıza çıkmaktadır. Çalışmamızda benzer şekilde riskli gebelerin eşi ile ilişkisi, yaşadığı yer, gebeliği planlama ve daha önce hastanede yatma durumu, gebelikte bakım ve doğuma hazırlık eğitimi alması durumu, yaşayan çocuk sayısı ile NSMt-RGASÖ puanları arasında istatistiksel olarak anlamlı fark saptanmıştır (p<0,05). Eşi ile ilişkisini kötü olarak ifade eden gebelerde algılanan stresin oldukça yüksek olması (83,75±17,28) bu çalışma varsayımını destekleyen bir bulgu olarak karşımıza çıkmaktadır. Eş desteği müdahale edilebilir bir durumdur ve stres üzerindeki etkisi olumlu anlamda değiştirilebilir. Yapılan çalışmalara bakıldığında da gebelikte algılanan stresin artması ile ilişkili bazı sosyodemografik faktörler belirlenmiştir.[21,22] Koendjbiharie ve arkadaşlarının (2022) çalışmasında üç farklı bölgede yaşayan gebelerin stres durumu karşılaştırılmış ve çalışmamızdan farklı olarak kırsal kesimde yaşayanların stres algısının daha yüksek olduğu gösterilmiştir.[21] Çalışmamızda il merkezinde yaşayan gebelerin stres algılarının yüksek olmasının, şehrin kalabalığı, günlük yaşam zorlukları ve sağlık hizmetlerine erişim kaygısı ile ilgili olabileceği düşünülmektedir. Gebeliğin

plansız olmasının ise riskli gebelikle beraber yaşamsal olayları büyük ölçüde etkileyerek belirsizlik yarattığı dolayısıyla algılanan stresi artırdığı düşünülmektedir. Önceden hastanede yatmış olan gebeler de kendilerinin ve bebeklerinin sağlığından endişelenme, uygulanan tedaviler, evden uzak kalma, eş desteğinin sınırlanması gibi pek çok nedenden dolayı daha fazla stres algılamış olabilir.[1] Literatüre bakıldığında hastanede yatan yüksek riskli gebelerde psikososyal yakınmaların daha fazla görüldüğü belirtilmektedir.[23] Öte yandan gebelikte bakım ve doğuma hazırlık eğitiminin, bu süreçteki belirsizliklerin giderilmesinde etkili olarak stresi azalttığı söylenebilir. Bu gebelerde stres durumunu etkileyen diğer bir faktör ise yaşayan çocuk sayısının fazla olması olarak karşımıza çıkmaktadır. Yaşayan çocuk sayısının fazla olması riskli gebelik gibi karmaşık bir süreçle bakım ve sorumluluğun artmasına işaret etmektedir, dolayısıyla gebelikte riskler çocuk bakımını olumsuz etkileyebilmektedir. Bu durumun riskli gebelerin algıladığı stresi arttırdığı düşünülmektedir. Bu sonuçlar riskli gebeliğin pek çok faktöre duyarlılığını artırarak stres algısının etkilendiğini göstermektedir. Öte yandan çalışmada erken doğum tehdidi başta olmak üzere tıbbi tanının algılanan stres üzerinde etkisinin olmadığı görülmüştür. McLeod ve arkadaşları ise riskli gebeliğin algılanan stresi artırdığına vurgu yapmıştır.[22] Bu farklılık kültürümüzde hastalık durumunda desteklenme eğiliminin artmasına bağlı olarak çalışmamızdaki gebelerin tıbbi tanı alma durumumda eşlerinden daha fazla destek almaları, stres algılarının azalmasına katkıda bulunmuş olabilir. Küçükkaya ve Başgöl (2023) de benzer şekilde eş desteğinin gebelerde stresi azaltarak, sorunlarla baş etme becerisini arttırdığı belirtmiştir.[24] Çalışmamızda gebelerin çalışma ve önceki gebelikte sorun yaşama durumu, riskli gebelikte algılanan stres üzerinde istatistiksel olarak anlamlı bulunmamıştır. Cincioğlu ve arkadaşları (2022) ise çalışma durumu ve önceki gebelikte sorun yaşama gibi durumların riskli gebelerde ruhsal durumu etkilediğini belirtmişlerdir.[11] Bu farklılığın ruhsal durumun depresyon, anksiyete gibi pek çok ruhsal sorun bağlamında ele alınmasından ve farklı ölçüm araçlarının kullanımından kaynaklanabileceği düşünülmüştür. [11]

Riskli gebeliklerde erken doğum başta olmak üzere olumsuz gebelik sonuçlarını önlemede özellikle sosyal desteğe odaklanılmaktadır.[18] Ancak araştırmamızda GEDAÖ toplam puan ortalamasına bakıldığında gebelerin eş desteği algılarının düşük düzeyde olduğu belirlenmiştir. Riskli gebelerde yapılan farklı bir çalışmada ise, gebelerin algıladığı eş desteğinin orta seviyede olduğu görülmüştür.[19] Çeşitli çalışmalarda herhangi bir risk taşımayan gebelerin ise eş desteğini yüksek olarak algıladıkları belirtilmektedir.[24-26] Bu durum riskli gebelerin daha fazla eş desteği beklediklerini göstermektedir. Riskli gebelik sürecinde algılanan stresin yüksek olması, çift ilişkisini de etkilemektedir.[27] Farklı bir çalışmada bu durum gebelikte stresin yükselmesiyle eş ilişkisinden memnuniyetin azalması sonucuyla desteklenmektedir.[28]

Bu çalışmada riskli gebelik döneminde gebelerin çalışma durumu, tıbbi tanısı, daha önce hastane yatışı, gebelikte bakım ve doğuma hazırlık eğitimi alması durumu ile GEDAÖ puanları arasında istatistiksel olarak anlamlı fark saptanmıştır ($p<0,05$). Çalışan kadınların eşlerinin daha fazla sorumluluk paylaşma eğiliminde olması beklenirken çalışmamızda çalışmayan gebelerin eş destek algısının daha fazla olması şaşırtıcıdır. Bu durum çalışma grubunun özelliğinden kaynaklanabilir. Çalışmada daha önce hastanede yatan ve hiperemezis gravidarum olan gebelerin daha fazla eş desteği algılaması ise eşlerinin bulantı-kusma ve halsizlik gibi semptomlara şahit olmaları, kendilerinin ve bebeklerinin sağlığından endişe duymaları dolayısıyla daha fazla destekleyici rol üstlenmeleri ile ilgili olabilir. Öte yandan çalışmamızda gebelikte bakım ve doğuma hazırlık eğitimi alan gebelerin eş destek algısının daha fazla olması, gebelerin antenatal süreci bilinçli ve sağlıklı geçirebilmeleri bakımından gebelikte eşin destekleyici rolünün önemini göstermektedir. Çalışmada evlilik yılı arttıkça eş desteği

algısının artışı ise eşlerin zaman içerisinde duygusal birlikteliklerinin olumlu bir yansıması olarak görülmektedir. Ayrıca gebelik, doğum ve çocuk sayısı arttıkça riskli gebelerin eş desteği algısının arttığı belirlenmiştir. Bu durumun kültürümüzde erkeklerin daha fazla çocuk sahibi olmak istemeleri, kadının değerini doğum ve çocuk sayısının belirlemesi ya da gebelik, doğum ve çocuk sayısı arttıkça destek gereksiniminin ve mevcut desteğin artışı ile ilgili olabileceği düşünülmektedir. Çalışmada hastanede yatış süresi arttıkça eş desteği algısının artışı da benzer fikirle hospitalizayon sürecinde bu gereksinimin artışına ve karşılandığına işaret edebilir. Eş desteği algısı ile ilişkili olan tüm bu faktörlerin dikkate alındığı ve gebelere eşleri ile birlikte verilecek olan eğitim ve danışmanlığın, eş destek algısını artırabileceği düşünülmektedir. Öte yandan bu çalışmada gebelerin eşleri ile ilişkisinin iyi ya da kötü olması ile eş destek algısı arasında anlamlı bir fark bulunmamıştır. Yüksek riskli gebelerle yapılan kalitatif bir çalışmada ise gebeler tehlikeli durumlarda eş desteğinden sıklıkla söz etmiştir.[29] Bu durum kültürümüzde eş ile ilişki dinamiğinin iyi ya da kötü olması fark etmeksizin riskli bir durumda eşlerin gebeleri destekleme noktasında benzer yaklaşımda bulunduğunu düşündürmüştür.

Çalışmada riskli gebelerin gebelik sürecinde algıladıkları eş desteği ve özellikle bilişsel anlamda eş desteği arttıkça algıladıkları toplam stres düzeyinin ve fizyolojik alana ilişkin stres düzeyinin azaldığı belirlenmiştir ($p<0,05$). Bu negatif ilişki riskli gebeliklerde gebenin algıladığı stresin azaltılmasında eş desteğinin önemini vurgulamaktadır. Eş/partner desteğinin gebelik üzerine etkisini inceleyen farklı bir çalışmada ise gebelerin %23'ü düşük düzeyde eş desteği belirtmişlerdir. Aynı çalışmada eş desteğinin düşük olmasıyla gebelerde depresyon, kaygı, sigara kullanımının arttığı belirlenmiştir.[8] Bedaso ve arkadaşları (2021) tarafından 67 makale dahil edilerek yapılan meta analiz çalışmasında ise sosyal destek yetersizliğinin gebelikte depresyon, anksiyete ve kendine zarar verme gibi riskli durumları artıracağı belirtilmiştir.[30] Gebelerde pozitif anne ruh sağlığı ve bunun obstetrik ve psikososyal faktörlerle ilişkisini araştıran bir çalışmada, sosyal desteğin doğum öncesi stres ve kaygıyı önleyebileceği ya da azaltabileceği belirtilmiştir.[31] Özbek ve Beydağ (2021)'ın[19] yapmış olduğu çalışmada, gebelerin stres düzeyleri ile eş destek düzeyleri arasında istatistiksel olarak anlamlı ilişki saptanmamıştır. Kumar ve arkadaşları (2022) çalışmalarında gebelerin eş desteği arttıkça, günlük streslerinin azaldığı aynı zamanda eş ilişkisi doyumlarının arttığını belirlemişlerdir.[27] Stres ve riskli gebelik arasındaki kısır döngü gebelerin sosyal destek gereksinimlerini özellikle de eşlerinden bekledikleri desteği artırabilmektedir. Gebelikte algılanan stres ve eş desteği arasında oluşan bu kritik ilişkinin, bu çalışmada gebelerin riskli olduğu ve daha fazla eş desteğine gereksinim duydukları dikkate alınırsa, daha fazla önem kazandığı söylenebilir.

SONUÇ VE ÖNERİLER

Araştırmada riskli gebelerin algıladığı stresin orta düzeyde ve eş desteğinin düşük düzeyde olduğu ortaya çıkmıştır. Bu kadınların gebelik sürecinde algıladıkları eş desteği arttıkça algıladıkları stresin azalması ise önemli bir sonuçtur. Bilişsel, maddi, sosyal ve duygusal desteğin yararları, özellikle riskli gebelik gibi kriz dönemlerinde eş/partnerlerin rolünün öneminin hatırlanmasını ve ailelerin bilgilendirilmesini gerekli kılmaktadır. Günümüzde Türkiye'de gebelerde rutin olarak yapılmayan stres taraması ve eş desteği takibinin yapılması gerekmektedir. Hemşireler ve diğer sağlık profesyonelleri gebelik bakım ve izlemlerine riskli gebelerin eşlerini de dahil ederek eğitim ve danışmanlık sunmalıdır. Bunların yanı sıra riskli gebelerin stresini azaltmaya yönelik girişimler, eşleri ile birlikte uygulanabilir. Bu yaklaşımlar gebelerin hem riskli gebeliğe bağlı algıladığı stresi azaltarak hem de eş desteğini artırarak gebelikte ve

doğum sonu dönemde ana-çocuk sağlığı ve olumlu aile içi ilişkiler için zemin hazırlayabilir.

KAYNAKLAR

1. Baltacı, N. ve Başer, M. (2020). "Riskli Gebelerde Yaşanan Anksiyete, Prenatal Bağlanma ve Hemşirenin Rolü". Dokuz Eylül Üniversitesi Hemşirelik Fakültesi Elektronik Dergisi, 13 (3), 206-212. https://doi.org/10.46483/deuhfed.565338.

2. Ölçer, Z. ve Oskay, Ü. (2015). "Yüksek Riskli Gebelerin Yaşadığı Stresörler ve Stresle Baş Etme Yöntemleri". Hemşirelikte Eğitim ve Araştırma Dergisi, 12 (2), 85-92.

3. Şanlı, Y., Dinçer, Y., Oskay, Ü. ve Bulduk, S. (2018). "Yüksek Riskli Gebelik Yaşayan Kadınlarda Ortaya Çıkan Stresörler ve Baş Etme Yöntemleri: Niteliksel Bir Çalışma". Sürekli Tıp Eğitimi Dergisi, 27 (5), 333-342.

4. Gözüyeşil, E. ve Ariöz, D.A. (2021). "Prenatal Distress and the Contributing Factors in High-Risk Pregnant Women". Journal of Education and Research in Nursing, 18 (2), 183-189. https://doi.org/10.5152/jern.2021.16870.

5. Mete, S., Fata, S. and Özberk, H. (2020). "Comparison of Stress Levels in Risky and Non-Risky Pregnancies". Journal of Academic Research in Nursing, 6 (3), 554-560. https://doi.org/10.5222/jaren.2020.93898.

6. Atasever, İ. ve Çelik, A.S. (2018). "Prenatal Stresin Ana-Çocuk Sağlığı Üzerine Etkisi". Anadolu Hemşirelik ve Sağlık Bilimleri Dergisi, 21 (1), 60-68.

7. American College of Obstetricians and Gynecologists (ACOG). (2015). "Screening for Perinatal Depression". Obstetrics & Gynecology, 125 (630), 1268-1271.

8. Backström, C., Ttorstensson, S. and Martensson, L.B. (2017). "To Be Able to Support Her, I Must Feel Calm and Safe: Pregnant Women's Partners Perceptions of Professional Support During Pregnancy". BMC Pregnancy and Childbirth, 17 (1), 234. https://doi.org/10.1186/s12884-017-1411-8.

9. Hopkins, J., Miller, J.L., Butler, K., Gibson, L., Hedrick, L. and Boyle, D.A. (2018). "The Relation Between Social Support, Anxiety and Distress Symptoms and Maternal Fetal Attachment". Journal of Reproductive and Infant Psychology, 36 (4), 381-392. https://doi.org/10.1080/02646838.2018.1466385.

10. Asenhed, L., Kilstram, J., Alehagen, S. and Baggens. C. (2014). "Becoming a father is a emotional roller coaster an analysis of first time father's blogs". Journal of Clinical Nursing, 23 (9-10), 1309-1317. https://doi.org/10.1111/jocn.12355.

11. Cincioğlu, E., Durat, G., Öztürk, S. ve Akbaş, H. (2022). "Riskli Gebeliklerde Gebelerin Ruhsal Durumları ve Stresle Başa Çıkma Biçimleri". Sağlık ve Toplum, 3, 148-157.

12. Yanık, D. ve Özcanarslan, F. (2019). "Riskli Gebelerde Algılanan Sosyal Destek ile Stresle Başetme Düzeyleri Arasındaki İlişki". Ebelik ve Sağlık Bilimleri Dergisi, 2 (3), 96-104.

13. Yurdakul, M., Aydın Beşen, M. ve Alıcı, D. (2020). "Gebelikte Eş Desteği Algısı Ölçeği'nin (GEDAÖ) Geliştirilmesi: Güvenirlik ve Geçerlik Çalışmaları". Hemşirelikte Eğitim ve Araştırma Dergisi, 17 (3), 258-266. https://doi.org/10.5222/HEAD.2020.83713.

14. Cheng, E.R., Rifas-Shiman, S.L. and Perkins, M.E. (2016) "The İnfluence of Antenatal Partner Support on Pregnancy Outcomes". J Womens Health (Larchmt), 25 (7), 67267-67269. https://doi.org/10.1089/jwh.2015.5462.

15. Gul, B., Riyaz, M.A., Batool, N., Yasmin, H. and Riaz, M.N. (2018). "Social Support and Health Related Quality of Life Among Pregnant Women". Journal of the Pakistan Medical Association, 68 (6), 872-875.

16. Suto, M., Takehare, K., Yamane, Y. and Ota, E. (2017) "Effects of Prenatal Childbirth Education for Parterns of Pregnant Women on Paternal Postnatal Mental Health and Couple Relationship: A Systematic Review". Journal of Affective Disorders, 210, 115-121. https://doi.org/10.1016/j.jad.2016.12.025.

17. Tokhi, M., Comrie-Thomson, L., Davis, J., Portela, A., Chersich, M. and Luchters, S. (2018). "Involving Men to İmprove Maternal and Newborn Health: A Systematic Review of The Effectiveness of Interventions". PLoS One, 13 (1), e0191620. https://doi.org/10.1371/journal.pone.0191620.

18. Metin, A. and Kulakaç, Ö. (2023). "Perceived Stress in Risky Pregnancy: A Scale Development Study". Journal of Nursology, 26 (1), 67-75.

19. Özbek, Z. and Beydağ, K.D. (2021). "Yüksek Riskli Gebelerde Eş Desteği ve Gebelik Stresi Arasındaki İlişki". Mersin Üniversitesi Sağlık Bilimleri Dergisi, 15 (2), 144-155.

20. Ding, X., Liang, M., Wu, Y., Zhao, T., Qu, G., Zhang, J., Zhang, H., Han, T., Ma, S. and Sun, Y. (2021). "The Impact of Prenatal Stressful Life Events on Adverse Birth Outcomes: A Systematic Review and Meta-Analysis". Journal of Affective Disorders, 15, 287, 406-416. https://doi.org/10.1016/j.jad.2021.03.083.

21. Koendjbiharie, A.P., Hindori-Mohangoo, A.D., Zijlmans, W.C. W.R., Shankar, A., Abdoel Wahid, F.Z., Covert, H.H., Lichtveld, M.Y. and Drury, S.S. (2022). "Sociodemographic Influences on Perceived Stress during Pregnancy: Results from the CCREOH Environmental Epidemiologic Study, Suriname". Women, 2 (2), 121–134. https://doi.org/10.3390/women2020014

22. McLeod, C., Ebeling, M.D., Baatz, J.E., Shary, J.R., Mulligan, J.R. and Wagner, C.L. (2022). "Sociodemographic Factors Affecting Perceived Stress During Pregnancy and the Association with Immune-Mediator Concentrations". Journal of Perinatal Medicine, 50 (2), 192-199. https://doi.org/10.1515/jpm-2021-0227.

23. Maloni, J.A. (2010). "Antepartum Bed Rest for Pregnancy Complications: Efficacy and Safety for Preventing Preterm Birth". Biological Research for Nursing, 12 (2), 106-124. https://doi.org/10.1177/1099800410375978.

24. Kücükkaya, B. and Basgöl, Ş. (2023). "The Effect of Perceived Spousal Support on Childbirth Self-Efficacy on Pregnant Women in Turkey". BMC Pregnancy and Childbirth, 23 (1), 1-8. https://doi.org/10.1186/s12884-023-05508-6

25. Metin, A. and Pasinlioğlu, T. (2016). "The Relationship Between Perceived Social Support and Prenatal Attachment in Pregnant Women". International Refereed Journal of Gynaecological Diseases and Maternal and Child Health, 5, 49-49.

26. Yüksekal, Z. and Yurdakul, M. (2021). "Gebelerin Eş Desteği Algıları ve İlişkili Faktörler". Turkish Journal of Family Medicine and Primary Care, 15 (4), 800-808. https://doi.org/10.21763/tjfmpc.971774

27. Kumar, S.A., Brock, R.L. and DiLillo, D. (2022). Partner Support and Connection Protect Couples During Pregnancy: A Daily Diary Investigation. Journal of Marriage and Family, 84 (2), 494-514. https://doi.org/10.1111/jomf.12798.

28. Rosand, G.M.B., Slinning, K., Eberhard-Gran, M., Røysamb, E. and Tambs, K. (2011). "Partner Relationship Satisfaction and

Maternal Emotional Distress in Early Pregnancy". BMC Public Health, 11, 1–12. https://doi.org/10.1186/1471-2458-11-161.

29. Mirzakhani, K., Khadivzadeh, T., Faridhosseini, F., & Ebadi, A. (2020). Pregnant Women's Experiences of the Conditions Affecting Marital Well-Being in High-Risk Pregnancy: A Qualitative Study. International journal of community based nursing and midwifery, 8(4), 345–357. https://doi.org/10.30476/ijcbnm.2020.85666.1285

30. Bedaso, A., Adams, J., Peng, W. and Sibbritt, D. (2021). "The Relationship Between Social Support and Mental Health Problems During Pregnancy: A Systematic Review and Meta-Analysis". Reproductive Health, 28, 18 (1), 162. https://doi.org/10.1186/s12978-021-01209-5.

31. Monterrosa-Castro, Á., Romero-Martínez, S. and Monterrosa-Blanco, A. (2023). "Positive Maternal Mental Health in Pregnant Women and its Association with Obstetric and Psychosocial Factors". BMC Public Health, 23 (1), 1013. https://doi.org/10.1186/s12889-023-15904-4.

GÜSBD 2024; 13(2): 1223 - 1233 **Gümüşhane Üniversitesi Sağlık Bilimleri Dergisi** **Araştırma Makalesi**
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Bir Fabrikanın Çalışanlarında Kadına Yönelik Şiddet Algısının Saptanması ve Eğitim Müdahalesinin Etkileri

Determination the Perception of Violence Against Women in a Factory Employees and Effects of Education Intervention

Kevser ERDOĞAN[1], Yeşim ŞENOL[2]

ÖZ

Bu çalışmada; fabrika çalışanlarının kadına yönelik şiddet algısının saptanması, kadına yönelik şiddet için eğitim müdahalesi yapılması ve eğitim müdahalesinin etkilerinin izlenmesi amaçlanmıştır.

Araştırma, tek grupta ön test-son test düzeninde müdahale tipinde saha çalışmasıdır. Antalya'da 4 şubeli bir fabrikanın çalışanlarında yapılmıştır. Müdahale olarak 5 saat süren kadına yönelik şiddet, toplumsal cinsiyet, değerler eğitimi, kız çocuklarının eğitimi, kadının işgücüne katılımı (toplam en az 20 saat) eğitimi verilmiştir. Eğitimler sunum, senaryo, münazara, afiş, el broşürü, grup çalışması, sosyal medya paylaşımları ile sürdürülmüştür. Eğitimlerden sonra anket tekrar uygulanmıştır. Araştırma 193 kişiyle (katılım oranı: %77,2) tamamlanmıştır. Anket; şiddet öyküsü, Genel Sağlık Anketi-12 (GSA-12), Evlilikte Kadına Yönelik Şiddete İlişkin Tutumlar Ölçeği'ni içermektedir.

Eğitim müdahalesi sonrası kadına yönelik şiddet algısı, bilgi düzeyi, beceri ve tutum olumlu yönde değişmiştir ($p<0,001$). Müdahale sonrası kadına yönelik şiddete tolerans azalmış, ayrılmaya ilişkin tutum olumlu yönde değişmiştir ($p<0,001$).

Verilen eğitimler ile bilgi düzeyinin artırılması ve tutumun değişebilir olması mümkün görülmektedir. Kadına yönelik şiddetle mücadeleye erkekleri dahil etmenin ve kadın-erkek eşitliğinin sağlanması için her iki cinsiyete birlikte müdahale etmenin etkili bir yöntem olduğu gösterilmiştir.

Anahtar Kelimeler: Kadına Yönelik Şiddet, Eğitim Müdahalesi, Toplumsal Cinsiyet Eşitliği

ABSTRACT

This study aimed to determine the perception of workplace violence against women among factory workers, implement an educational intervention on violence against women and monitor the effects of the intervention.

The research was conducted as a pre-test/post-test field study with intervention in a four-branch factory in Antalya. The intervention consisted of a 5-hour training program on violence against women, gender norms, values education, girls' education and women's participation in the workforce (totaling at least 20 hours). The training was conducted through presentations, scenarios, debates, posters, brochures, group work and social media posts. A follow-up survey was administered after the training. The research was completed with 193 participants (participation rate: 77,2%). The survey included a violence history section, General Health Questionnaire-12 (GHQ-12) and Attitudes Towards Violence Against Women in Marriage Scale

After the educational intervention, there has been a significant positive change in perception, knowledge, skills and attitudes towards gender-based violence against women ($p<0.001$). Tolerance towards gender-based violence has decreased and attitudes towards leaving have become more favorable ($p<0.001$).

It is believed that the provided training increased knowledge levels and could lead to changes in attitudes. The effectiveness of including men in the fight against violence against women and implementing interventions targeting both genders to achieve gender equality has been demonstrated.

Keywords: Violence Against Women, Education Intervention, Gender Equality

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[1] Uzm. Dr., Kevser ERDOĞAN, Halk Sağlığı, Antalya İl Sağlık Müdürlüğü L1 Halk Sağlığı Laboratuvarı, Laboratuvar Sorumlusu, kevseruz@hotmail.com, ORCID: 0000-0002-3529-2942
[2] Prof. Dr., Yeşim ŞENOL, Halk Sağlığı, Tıp Eğitimi, Akdeniz Ü. Tıp Fak. Tıp Eğitimi AD. Halk Sağlığı AD., Tıp Fakültesi Dekanı, yysenol@gmail.com, ORCID: 0000-0001-8311-3745
İletişim / Corresponding Author: Kevser ERDOĞAN
e-posta/e-mail: kevseruz@hotmail.com
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GİRİŞ

Şiddet, tüm dünyada sağlığı olumsuz yönde etkileyen önemli bir halk sağlığı sorunudur. Etkileri, dünyanın her yerinde çeşitli biçimlerde görülebilir. Her yıl 1,6 milyondan fazla insan şiddete maruz kalmaktadır, bir milyondan fazla insan yaşamını yitirmekte, birçokları da kendine yönelik, kişilerarası veya kollektif şiddetin sonucu olarak ölümcül olmayan yaralanmalara maruz kalmaktadır.[1] Dünya genelinde 15-44 yaş arası insanların önde gelen ölüm nedenleri arasında olan şiddet, erkeklerin ölüm nedenlerinin %14'ünü, kadınların ölüm nedenlerinin ise %7'sini oluşturmaktadır.[2] Kesin tahminlerin elde edilmesi zor olsa da, dünya çapında yıllık sağlık harcamalarında şiddetin maliyeti milyarlarca ABD dolarıdır ve işten kaybedilen günler, kolluk kuvvetleri ve kayıp yatırımlar için ulusal ekonomiye milyarlarca dolara mal olmaktadır.[1] Şiddet eylemi nitelik açısından fiziksel, cinsel, psikolojik, ekonomik şekildedir ve bunun yanında yoksun bırakma ve ihmali de içermektedir.[3]

Kadınların ekonomik ve cinsel şiddeti, erkeklerin de ekonomik ve psikolojik şiddeti sıklıkla şiddet olarak tanımlamadıklarını ve bunları doğal bir süreç olarak algıladıklarını gösteren çalışmalar mevcuttur. Fiziksel şiddet dışındaki şiddet çeşitlerini tanımlamadaki bu zorluk, kadına yönelik şiddetle mücadelede engel meydana getirmektedir.[4] Ayrıca kadına yönelik şiddetle ilgili yapılan çalışmalara katılmaya gönüllü olan erkeklerin, şiddet uygulamayan erkekler olması şiddet uygulama sıklığını ortaya koymada zorluklara neden olmaktadır.[5]

Şiddetin en yaygın görülen biçimi erkeğin kadına ve çocuğa karşı uyguladığı aile içi şiddettir. Dünya Sağlık Örgütünün 2002 yılında yayınladığı raporunda, şiddetin en fazla aile ortamında ve kadına yönelik olduğu bildirilmektedir.[1] Aile içi şiddetin ekonomik gelişmişlik seviyesi, coğrafi sınır ve eğitim düzeyi gibi değişkenler fark etmeksizin, tüm dünyada ve kültürlerde önemli bir sorun olarak ifade edildiği görülmektedir. Kadına yönelik şiddet algısı da kültürel değerlerden, şiddetin varlığından, benimsenmesinden ve meşru görülmesinden etkilenmektedir.[6]

Halk sağlığı ile ilgili kaynaklarda "gizli ya da sessiz epidemi" olarak adlandırılan[7], genellikle ev içinde aile bireylerinin birbirine uyguladığı şiddeti ifade eden aile içi şiddet; çocuğa, yaşlıya ve özellikle kadına yönelik şiddeti içermektedir.[8]

Kadına yönelik şiddet kadınların fiziksel, zihinsel ve üreme sağlığı üzerinde ciddi olumsuz etkilere neden olan küresel bir halk sağlığı problemidir. Artan kanıt tabanı ve şiddetin kadınlara karşı şiddet ve sağlık etkilerini belgeleyen araştırmaların büyümesi nedeniyle halk sağlığı sorunu olarak giderek daha fazla tanınmaktadır. Nedeni ne olursa olsun, sağlığı olumsuz etkileyen sonuçlarının olması, sık görülmesi, yaralanmalara, sakatlıklara, ölümlere neden olması, işgücü ve ekonomik kayıplara neden olması açısından kadına yönelik şiddet, riskli grupların belirlenip çok sektörlü önleme çalışmalarıyla ön planda tutulmaya devam edilmesi gereken önemli bir konudur.[9]

Kadına yönelik şiddetin sonuçları fiziksel şiddet sona erse bile etkileri uzun süre kötü sağlık algısı, düşük yaşam kalitesi, kötü sağlık davranışları ve sağlık hizmetlerinin artan kullanımı olarak devam etmektedir. Yapılan araştırmalarda depresyon, travma sonrası stres bozukluğu, yaygın anksiyete bozukluğu, fobiler, obsesif kompulsif bozukluk, panik bozukluklar, somatizasyon, intihara teşebbüs ve madde kullanım bozuklukları gibi ruh sağlığı sorunları ile kadına yönelik şiddet arasında güçlü bir ilişki bulunmuştur.[10,11]

Kadının eğitim ve sosyoekonomik düzeyi ile şiddete uğraması arasında ters orantı vardır. Kırda yaşayan kadınlarda kentte yaşayanlara göre şiddet oranları daha yüksektir. Eşin eğitim düzeyi düştükçe şiddet uygulaması artarken, üniversite mezunu eşlerin şiddet uygulama oranı da azımsanmayacak düzeyde yüksektir. Ailenin

gelir düzeyi ile kadınların fiziksel şiddete uğraması arasında ters ilişki vardır.[12,13]

Dünya Sağlık Örgütü (DSÖ), dünyadaki kadınların yaşadığı şiddet düzeylerini "acil eylem gerektiren, salgın düzeyinde küresel bir halk sağlığı sorunu" olarak tanımlamaktadır.[14] Hiçbir halk sağlığı probleminin önleme çalışmaları olmadan yok edilemeyeceği ve kadına yönelik şiddeti önlemek için programlar geliştirilmesinin gerektiği vurgulanmaktadır. Dünya Sağlık Örgütü'nün 2013 yılında yayınladığı "Kadına Yönelik Şiddete İlişkin Küresel ve Bölgesel Tahminler" adlı durum raporunda, toplumsal cinsiyet eşitliğini teşvik eden çalışmalar ile kadınların ve kız çocuklarının potansiyel güçlerini ortaya çıkarmasının sağlanabileceğinden bahsedilmektedir.[15] Bu rapor, kadına yönelik şiddet sadece toplumun bir kesiminde değil tüm dünyanın harekete geçmesi gereken epidemik düzeyde bir problem olduğunu göstermektedir.[15] Şiddetin olmadığı bir yaşam her kadın, erkek ve çocuğun temel bir insan hakkıdır. Son zamanlarda şiddeti önlemek için şiddetin altında yatan nedenleri ve risk faktörlerini ele almanın öneminin vurguladığı çalışmalar yapılmaktadır.[16]

Lori Heise tarafından önerilen ve kadına yönelik şiddetin nedenlerine yönelik araştırmalarda temel alınan "ekolojik model"; bireysel, aile ve çevre, yaşanan bölge ve toplum düzeylerindeki etmenleri iç içe dört halka şeklinde sınıflandırılmıştır.[17] Eş ya da partner şiddetine bağlı failin nedenleri (bahaneleri) olarak, toplumsal cinsiyet algısından hareketle ortaya çıktığı düşünülen sahip olma duygusu ile kadının ayrılma isteğini kabullenememe, kıskançlık, ekonomik gücü elde tutma isteği, aldatılma şüphesi, namus/töre, erkeğin hizmet beklentisi gibi nedenler öne sürdüğü görülmektedir.[18] Bu nedenlerle kadına yönelik şiddetle etkili bir mücadele ortaya koymak için erkeklerin dahil olduğu çalışmaların yürütülmesi anlamlı olacaktır.

Kadına yönelik şiddetle mücadelede şiddete uğrayan ya da şiddete uğrama tehlikesi bulunan kadınlar hedef kitleyken, artık erkekler de kadına yönelik şiddetle mücadelede önemli aktörler olarak karşımıza çıkmaktadır. Toplumsal farkındalık yaratılmasının yanı sıra aile içi iletişimin geliştirilmesine ve erkeklere öfke kontrol becerisinin kazandırılmasına yönelik çalışmalar sürece katkı sağlayacaktır. Ülkemizde erkeklere yönelik farkındalık artırma amacıyla düzenlenen "Kadına Yönelik Şiddetle Mücadele Eğitim Seminerleri" kapsamında kamu personeline, topluma, öğretmen, öğrenci ve velilere, imam-hatip, kuran kursu öğreticilerine, Türk Silahlı Kuvvetleri personeline eğitimler verilmiştir.[19] Literatürde erkeklere yönelik kadına şiddet eğitim müdahalesi yapılan çalışma sayısı oldukça kısıtlıdır.

Bu çalışmanın öncesinde aynı fabrikalarda kadın çalışanlara yönelik yapılan pilot çalışma sonucunda fiziksel ve ekonomik şiddetin varlığı tespit edilmiştir.[20] Bu çalışmada çalışanlarda kadına yönelik şiddet algısının saptanması, fabrika çalışanlarına kadına yönelik şiddet konusunda eğitim müdahalesi yapılması ve eğitim müdahalesinin etkilerinin izlenmesi amaçlanmıştır. Fabrika çalışanlarının eğitim sonrası kadına yönelik şiddet tutumunun olumlu yönde değişeceği hipotezi geliştirilmiştir ve erkeklerin de dahil edildiği ortamlarda kadına yönelik şiddetle mücadele eğitim müdahalesi gerçekleştirilmesinin sonuçlarına yer verilecektir.

MATERYAL VE METOT

Araştırma, tek grupta ön test - son test düzeninde müdahale tipinde yarı deneysel bir saha çalışmasıdır. Müdahale olarak araştırmacılar tarafından hazırlanan bir eğitim programı kullanılmıştır. Araştırma Antalya ili Korkuteli ilçesi Yelten köyünde bulunan toplam 250 çalışanı olan 4 şubeli mantar ve kompost üretim tesisinde yapılmıştır. Örneklem seçilmemiş olup, fabrikanın 250 çalışanının tümüne ulaşılması amaçlanmıştır. Bazı çalışanların izinli olması, fabrika dışında bir iş yapması ya da çalışmaya katılmayı reddetmesi nedenleriyle çalışma dışı kalmıştır ve çalışma 193 kişiyle

(katılım oranı: %77,2) tamamlanmıştır. Fabrika sahibi çalışmanın yapılmasını desteklemiştir. Bu nedenle anketlerin uygulanması ve eğitimlerin verilmesi iş saatinde sorunsuz şekilde tamamlanmıştır.

Araştırma grubuna benzer sosyokültürel düzeyde olduğu düşünüldüğü için Akdeniz Üniversitesi Tıp Fakültesi Hastanesi ev idaresi (temizlik) bölümü çalışanı 30 kişiye ön deneme amacıyla anket formu çalışmaya başlamadan önce uygulanmıştır. Araştırma verilerinin toplanması araştırmacı ve yardımcı sekiz anketör tarafından, eğitimlerin verilmesi ve verilerin analizi tek araştırmacı tarafından yapılmıştır. Anketörler Akdeniz Üniversitesi Tıp, Hemşirelik, Eğitim ve İletişim Fakültesi öğrencilerinden gönüllülük esasına göre iletişim becerisi yüksek olan öğrenciler arasından seçilmiştir. Anketörlere verileri nasıl toplaması gerektiği konusunda Tıp Eğitimi Anabilim Dalı'nda profesör olan bir doktor tarafından eğitim verilmiştir.

Araştırmanın Akışı

1. Fabrika çalışanlarına sosyodemografik özelliklerin, şiddet algısının, şiddet öyküsünün, şiddet bilgi, beceri, tutumunun, şiddeti meşru görme nedenlerinin, Evlilikte Kadına Yönelik Şiddete İlişkin Tutumlar Ölçeği'nin ve Genel Sağlık Anketi'nin değerlendirilmesine yönelik veri toplama formunu içeren anket formu (ön test) uygulanmıştır. Veriler yüz yüze görüşme yöntemi ile toplanmıştır. Araştırma ve anketle ilgili gerekli açıklamalar katılımcılara anket uygulanmadan önce yapılmıştır. Eğitim müdahalesi sonrası yapılacak anketle karşılaştırabilmek için her bir ankete numara verilerek eşleşme sağlanmıştır. Anketteki bilgilerin araştırma dışında kullanılmayacağı bilgilendirilmiş gönüllü olur formunda da belirtilmiştir. Anketin uygulanması yaklaşık 30 dakika sürmüştür.

2. Fabrika çalışanlarına grup çalışması, senaryo, sunum ve münazara ile toplamda en az 20 saat olacak şekilde (dört ayrı fabrikada 5'er saat) kadına yönelik şiddet, toplumsal cinsiyet, kız çocuklarının eğitiminin önemi, kadınların işgücüne katılımının önemi ve değerler eğitimi müdahalesi uygulanmıştır.

3. Pilot çalışmada fabrika çalışanlarının büyük bir çoğunluğunun facebook sosyal medya kullanıcısı olduğu tespit edilmiştir. Bu nedenle bir facebook grubu kurulmuş ve sağlık davranışlarına, şiddete, insani değerlere ilişkin eğitim içerikli paylaşımlar yapılmıştır.

4. Fabrikaların görünür yerlerine kadına yönelik şiddetle ilgili araştırmacılar tarafından hazırlanan bilgilendirme afişleri asılmıştır. Yapılan ön testte fabrika çalışanlarının eğitim düzeyi belirlenmiştir. İçerik ve görsel olarak kişilerin eğitim düzeyine uygun, anlaşılır, basit ancak etkileyici ve faydalı afişler hazırlanmasına dikkat edilmiştir.[21]

5. Çalışanlara kadına yönelik şiddet konusunda çeşitli bilgiler; şiddete maruz kalındığında/tanık olunduğunda nerelere başvurulması gerektiği, hak, sorumluluk ve cezai hükümleri içeren el broşürü dağıtılmıştır.

6. Eğitimlerden sonra çalışanlara veri toplama formu yüz yüze görüşme yöntemiyle araştırmacı ve anketörler tarafından tekrar uygulanmıştır. Sosyodemografik özelliklerin tekrar sorulmaması nedeniyle anket yaklaşık 20-25 dakika sürmüştür.

Evlilikte Kadına Yönelik Şiddete İlişkin Tutumlar Ölçeği: Sakallı-Uğurlu ve Ulu tarafından 2003 yılında geliştirilen ve aynı yazarlar tarafından geçerlik güvenirlik çalışması yapılan ölçek, "Fiziksel Şiddete İlişkin Tutumlar", "Sözel Şiddete Tolerans" ve "Fiziksel Şiddet Sonucunda Ayrılmaya İlişkin Tutumlar" başlıklı 3 alt ölçekten ve toplam 13 maddeden oluşmaktadır. Ölçek 6'lı likert tipinde olup, ölçekten alınan yüksek puanlar kadına yönelik şiddetin kabulünü ve ayrılmaya ilişkin olumlu tutumu göstermektedir. Ölçeği geliştirenlerden ölçek kullanım izni alınmıştır.[22]

Genel Sağlık Anketi-12 (GSA-12): Özellikle birinci basamakta ruhsal bozukluğu ayırt etmek için kullanılan hasta tarafından doldurulan bir ölçektir. Bu çalışmada Kılıç (1996) tarafından Türkçe geçerlik ve güvenilirlik çalışması yapılmış 12 soruluk form kullanılmıştır. İç tutarlılığı 0.78,

duyarlılığı 0.74, özgüllüğü 0.84 olarak hesaplanmıştır. Sorular 4 şıklıdır ("hayır, hiç çekmiyorum", "her zamanki kadar", "her zamankinden sık", "çok sık"). Ölçek puanı hesaplanırken ilk 2 sütuna 0, son iki sütuna 1 puan verilerek (0,0,1,1) hesaplanmıştır. Çalışmada 2 puan ve üzerinde alanlar ruhsal bozukluk riski "var", 2 puan altında alanlar ruhsal bozukluk riski "yok" şeklinde değerlendirilmiştir.[23,24]

Araştırmanın Etik Yönü

Çalışmanın yürütülebilmesi için fabrikanın yönetim kurulundan gerekli izinler alınmıştır ve katılımcılardan veri toplamadan önce sözlü ve yazılı onam alınmıştır. Araştırma için Akdeniz Üniversitesi Girişimsel Olmayan Klinik Araştırmalar Etik Kurulu'ndan etik kurul onayı alınmıştır (70904504-224 sayı, 335 nolu karar). Evlilikte Kadına Yönelik Şiddete İlişkin Tutumlar Ölçeği'ni geliştirenlerden kullanım izni alınmıştır. Çalışma 3926 proje numarası ile Akdeniz Üniversitesi Bilimsel Araştırma Projeleri Koordinasyon Birimi tarafından (BAP) desteklenmiştir.

Verilerin Analizi

Çalışmanın veri girişi ve analizleri "Statistics Package for Social Sciences" (SPSS 20.0) İstatistiksel Bilgisayar Paket Programı kullanılarak yapılmıştır. Değişkenlerin normal dağılıma uygunluğu Kolmogorow Smirnow ve Shapiro Wilk testleri ile kontrol edilmiştir. Bireysel eğitim öncesi ve sonrası test sorularının değişimi McNemar testi ile analiz edilmiştir. Normal dağılıma uymayan ön test ve son test sürekli değişkenlerin değişimi Wilcoxon testi ile analiz edilmiştir.

Araştırmanın Kısıtlılıkları

Araştırma bir müdahale çalışması olması yönünden ortaya çıkan sonuçların kanıtı değerlidir. Ancak özellikle konuya karşı tepkili olan, sesini yükselten, şiddetle ilgili konuşuldukça daha fazla şiddet uygulandığını savunan erkek çalışanlar olması nedeniyle veri toplama formunu doldurmayan ve eğitimlere katılmayı kabul etmeyenler olmuştur. Bazı erkeklerin katılmamasına rağmen araştırmanın tüm basamaklarına katılım yeterli düzeyde olmuştur. Fabrikada bulunan 128 erkek çalışanın 8'i çalışmaya katılmayı kabul etmemiştir ve çalışmaya katılmayı kabul etmeyen erkek çalışanların oranı %6,25'tir.

Eğitimin etkisi değerlendirilirken katılımcılar kendi düşüncelerini değil olması gereken, eğitimler sırasında öğrendiklerine göre cevap vermiş olabilirler. Bu nedenle müdahalenin etkisi yüksek şekilde olumlu bulunmuş olabilir. Ayrıca literatürde erkeklere yönelik kadına yönelik şiddet eğitimi müdahalesi yapılmış az çalışma olması nedeniyle diğer çalışmalarla karşılaştırılmasında kısıtlılık karşımıza çıkmaktadır.

Kadına yönelik şiddette birincil koruma; farkındalık oluşturma, savunuculuk, zararlı alkol tüketimini azaltmak ve şiddet verilerinin tutulmasıdır. İkincil koruma; şiddeti tanıma/fark etme, sağlık sorunları için akut bakım, ruh sağlığı dahil olmak üzere uzun süreli sağlık hizmeti, üçüncül koruma; rehabilitasyon, ruhsal sağlık ve diğer sağlık desteklerinin sürdürülmesi, istihdam, barınma, maddi ve yasal destek gibi konuları içermektedir.[25] Çalışmamız birincil korumaya yönelik planlanmıştır. Ancak ikincil ve üçüncül koruma için katılımcıların nerelerden destek alabilecekleri konusunda eğitim verilmiştir ve bu konudaki bilgi düzeyleri artırılmıştır. Tedavi ve rehabilitasyona yönelik bir müdahale uygulanmamıştır.

Verilen eğitimler fabrika çalışanlarını kapsamakta olup, bir meslek grubuna genellenememektedir. Sağlık çalışanları ve kolluk kuvvetleri şiddete maruz kalan kişilerin ilk karşılaştığı meslek gruplarıdır.[26] Ancak fabrika çalışanları haricinde aynı ilçede bulunan sağlık çalışanları ve kolluk kuvvetlerine eğitim verilmemiştir.

Teşekkür

Maddi kaynak sağlamamakla birlikte; olanaklarını, çalışma alanlarını ve eğitim salonlarını araştırmacıların kullanımına açan fabrika sahibine teşekkür ederiz.

BULGULAR VE TARTIŞMA

Tablo 1 incelendiğinde, çalışmaya katılan 193 kişinin %62,2'si erkek, %37,8'i kadın cinsiyettedir. Katılımcıların yaşı ortalama 36,22'dir, öğrenim durumu %61,1'inin ortaokul ve altındadır. Ekonomik durumunu %60,6'sı geliri giderinden az olarak belirtmiştir. Katılımcıların %71'i evli, %20,2'si bekardır. Hayat boyu maruz kaldığı şiddet çeşidine baktığımızda %43,5'i fiziksel, %24,4'ü psikolojik, %1,6'sı cinsel, %22,8'i ekonomik şiddete maruz kalmıştır. Katılımcıların çocukken babasının annesine şiddet uygulama durumu incelendiğinde 49,8'inin fiziksel, %48,2'sinin psikolojik, %40,9'unun ekonomik şiddet uyguladığı görülmektedir.

Tablo 1. Katılımcıların Tanımlayıcı Özelliklerinin ve Şiddet Öykülerinin Dağılımı

Özellik		n	%*
Cinsiyet	Kadın	73	37,8
	Erkek	120	62,2
Yaş	≤36	92	47,7
	>36	101	52,3
Ortalama±SS= 36,22±9,37 Ortanca= 37, Min-Max değer= 19-62			
Öğrenim durumu	Ortaokul ve altı eğitim	118	61,1
	Lise ve üzeri eğitim	75	38,9
Algılanan ekonomik durum	Gelirim giderimden az	117	60,6
	Gelirim giderime eşit	55	28,5
	Gelirim giderimden yüksek	21	10,9
Medeni durum	Evli	137	71,0
	Bekar	39	20,2
	Boşanmış	14	7,3
	Ayrı yaşıyor/Ölmüş	3	1,5
Şiddet öyküsü çeşidi**	Fiziksel şiddet	84	43,5
	Psikolojik şiddet	47	24,4
	Cinsel şiddet	3	1,6
	Ekonomik şiddet	44	22,8
Babasının annesine şiddetine tanıklık**	Fiziksel şiddet	96	49,8
	Psikolojik şiddet	93	48,2
	Ekonomik şiddet	79	40,9
Toplam		**193**	**100**

N:Sayı, %:Yüzde *Sütün yüzdesi alınmıştır. **Evet cevabı verenlerin yüzdesi hesaplanmıştır. SS: Standart sapma Min: Minimum, Max: Maximum

Tablo 2'ye göre çalışmada hayat boyu fiziksel şiddete maruz kalma (p=0,005), hayat boyu psikolojik şiddete maruz kalma (p=0,005), çocukken babasının annesine fiziksel şiddetine tanıklık etme (p=0,001), çevresinde eşine şiddet uygulayan kişi varlığı (p=0,002), kocasının kazandığı parayı israf ederse şiddeti meşru görme (p=0,003), aldatırsa şiddeti meşru görme (p=0,037), kocasının hatalarını yüzüne vurursa şiddeti meşru görme (p=0,049) ile GSA-12 skorunun 2'nin üzerinde olması arasında istatistiksel olarak anlamlı ilişki bulunmuştur.

Tablo 2. Katılımcıların Şiddet Hakkındaki Bazı Özelliklerine Göre GSA-12 Skorunun Dağılımı

(n=193)	GSA-12 skoru					
	<2		≥2			
	n	%*	n	%*	p #	x²
Fiziksel şiddet						
Maruz kalan	48	57,1	36	42,9	0,005	7,858
Maruz kalmayan	83	76,1	26	23,9		
Psikolojik şiddet						
Maruz kalan	24	51,1	23	48,9	0,005	8,053
Maruz kalmayan	107	73,3	39	26,7		
Çocukken fiziksel şiddete tanıklık etme						
Evet	59	57,3	44	42,7	0,001	11,37
Hayır	72	80,0	18	20,0		
Çevresinde eşine şiddet uygulayan kişi varlığı						
Var	43	55,1	35	44,9	0,002	9,756
Yok	88	76,5	27	23,5		
Kocasının kazandığı parayı israf ederse şiddeti meşru görme						
Evet	48	56,5	37	43,5	0,003	9,061
Hayır	83	76,9	25	23,1		
Aldatırsa şiddeti meşru görme						
Evet	89	63,6	51	36,4	0,037	4,332
Hayır	42	79,2	11	20,8		
Kocasının hatalarını yüzüne vurursa şiddeti meşru görme						
Evet	48	60,0	32	40,0	0,049	3,887
Hayır	83	73,5	30	26,5		
Toplam	**131**	**67,9**	**62**	**32,1**		

*N:Sayı, %:Yüzde *Satır yüzdesi alınmıştır. #:Ki-kare testi*

Tablo 3'e göre katılımcıların bir kadının eşinden şiddet gördüğündeki tutumuna ilişkin

düşünceleri eğitim sonrası istatistiksel olarak anlamlı olarak değişmiştir (p<0,05).

Tablo 3. Katılımcıların Bir Kadının Eşinden Şiddet Gördüğündeki Tutumuna İlişkin Düşüncelerinin Ön Test Ve Son Test Dağılımı

	Ön test		Son test		
	n	%	n	%	p #
Tutumlar** (n=193)					
Hiçbir şey yapmamalıdır.	35	18,1	3	1,6	<0,001
Karşılık vermelidir.	12	6,2	4	2,1	0,057
Evi terk etmelidir.	14	7,3	18	9,3	0,481
Polise/Jandarmaya haber vermelidir.	69	5,8	134	69,4	<0,001
Kendi ailesinden yardım istemelidir.	34	7,6	26	13,5	0,256
Eşinin ailesine şikayet etmelidir.	29	15,0	14	7,3	0,011
Sosyal hizmetlere başvurmalıdır.	29	15,0	57	29,5	<0,001
Doktora/Hastaneye başvurmalıdır.	4	2,1	85	44,0	<0,001
Alo 183'ü aramalıdır.	26	13,5	161	83,4	<0,001

**Katılımcıların toplam sayısına göre yüzde hesaplanmıştır. **Birden fazla seçenek işaretlenmiştir. # Mc-Nemar testi*

Tablo 4'te ön testte katılımcıların eşin fiziksel şiddet uygulamasını doğru bulduğu durumların ilk sırasında aldatırsa (%72,5), ikinci sırada kocasına yalan söylerse (%52,8) ve üçüncü sırada başka insanların yanında kocasıyla alay ederse, küçük düşürürse (%50,8) şiddeti kabul ettiği görülmektedir. Katılımcıların müdahale sonrası eşinden habersiz dışarı çıkarsa, çocukların bakımını ihmal ederse, yemek ve ev işlerini yapmazsa, eşine karşılık verirse, cinsel ilişkide bulunmayı reddederse, yemeği yakarsa, başka insanların yanında kocasıyla alay ederse, küçük düşürürse, kocasını devamlı eleştirirse, eşine devamlı karşı çıkarsa, kocasının kazandığı parayı israf ederse, aldatırsa, kocasına yalan söylerse, kocasının hatalarını durmadan yüzüne vurup onu kızdırırsa, kocasının akrabalarına saygısızlık ederse eşin fiziksel şiddet uygulamasını meşru görme oranı müdahale öncesi şiddeti meşru görme oranı ile karşılaştırıldığında aradaki fark istatistiksel olarak anlamlı bulunmuştur (p<0,001).

Tablo 4. Katılımcıların Eşin Fiziksel Şiddet Uygulamasını Doğru Bulduğu Durumların Ön Test Ve Son Test Dağılımı

	Ön test		Son test		p #
	Evet, doğru buluyorum.		Evet, doğru buluyorum.		
Şiddeti meşrulaştırdığı durum (n=193)	Sayı	Yüzde*	Sayı	Yüzde*	
Eşinden habersiz dışarı çıkarsa	41	21,2	12	6,2	<0,001
Çocukların bakımını ihmal ederse	67	34,7	33	17,1	<0,001
Yemek ve ev işlerini yapmazsa	53	27,5	17	8,8	<0,001
Eşine karşılık verirse	53	27,5	11	5,7	<0,001
Cinsel ilişkide bulunmayı reddederse	42	21,8	5	2,6	<0,001
Yemeği yakarsa	21	10,9	3	1,6	<0,001
Başka insanların yanında kocasıyla alay ederse, küçük düşürürse	98	50,8	42	21,8	<0,001
Kocasını devamlı eleştirirse	69	35,8	18	9,3	<0,001
Eşine devamlı karşı çıkarsa	82	42,5	19	9,8	<0,001
Kocasının kazandığı parayı israf ederse	85	44,0	32	16,6	<0,001
Aldatırsa	140	72,5	90	46,6	<0,001
Kocasına yalan söylerse	102	52,8	59	30,6	<0,001
Kocasının hatalarını durmadan yüzüne vurup onu kızdırırsa	80	41,5	30	15,5	<0,001
Kocasının akrabalarına saygısızlık ederse	67	34,7	18	9,3	<0,001

**Katılımcıların toplam sayısına göre yüzde hesaplanmıştır. #:Mc-Nemar testi*

Tablo 5'e göre Evlilikte Kadına Yönelik Şiddete İlişkin Tutumlar Ölçeği'nin Sözel Şiddete Tolerans alt ölçeğinden katılımcıların müdahale öncesi aldığı ortanca değer 13 (birinci çeyreklik 10, üçüncü çeyreklik 16,5), müdahale sonrası aldığı ortanca değer 10 (birinci çeyreklik 8, üçüncü çeyreklik 13,5) olarak tespit edilmiştir ve aradaki fark istatistiksel olarak anlamlıdır (p<0,001). Evlilikte Kadına Yönelik Şiddete İlişkin Tutumlar Ölçeği'nin Fiziksel Şiddete İlişkin Tutumlar alt ölçeğinden katılımcıların müdahale öncesi aldığı ortanca değer 11 (birinci çeyreklik 8, üçüncü çeyreklik 15), müdahale sonrası aldığı ortanca değer 8 (birinci çeyreklik 5, üçüncü çeyreklik 11) olarak tespit edilmiştir ve aradaki fark istatistiksel olarak anlamlıdır (p<0,001). Evlilikte Kadına Yönelik Şiddete İlişkin Tutumlar Ölçeği'nin Ayrılmaya İlişkin Tutumlar alt ölçeğinden katılımcıların müdahale öncesi aldığı ortanca değer 12 (birinci çeyreklik 8, üçüncü çeyreklik 15), müdahale sonrası aldığı ortanca değer 16 (birinci çeyreklik 13, üçüncü çeyreklik 20) olarak tespit edilmiştir ve aradaki fark istatistiksel olarak anlamlıdır (p<0,001).

Tablo 5. Katılımcıların Ön Ve Son Testte Evlilikte Kadına Yönelik Şiddete İlişkin Tutumlar Ölçeği'nden Aldıkları Puanın Ortanca Ve Çeyreklik Değerleri Dağılımı

Ölçek alt boyutları	Puan	Q2	Q1	Q3	p #
Sözel Şiddete Tolerans	Ön T.	13	10	16,5	<0,001
	Son T.	10	8	13,5	
Fiziksel Şiddete İlişkin Tutumlar	Ön T.	11	8	15	<0,001
	Son T.	8	5	11	
Ayrılmaya İlişkin Tutumlar	Ön T.	12	8	15	<0,001
	Son T.	16	13	20	

Q2: Ortanca, Q1: 1. Çeyrek, Q3: 3. Çeyrek, #: Wilcoxon testi

Katılımcıların çocukken babasının annesine şiddet uygulama durumu incelendiğinde 49,8'inin fiziksel, %48,2'sinin psikolojik, %40,9'unun ekonomik şiddet uyguladığı görülmektedir. Çalışmamızda katılımcıların babasının annesine şiddetine tanıklık edenlerin oranına baktığımızda iki kişiden biri fiziksel ve/veya psikolojik şiddete, yarıya yakını ekonomik şiddete tanıklık etmiştir. Katılımcılarımız arasında şiddete tanıklığın oldukça yüksek oranlarda olduğu görülmektedir.

Çocukken babasının annesine fiziksel şiddetine tanıklık edenlerin %42,7'sinin, tanıklık etmeyenlerin %20,0'ının GSA-12 ölçeğinden aldığı puanın 2 ve üzerinde olduğu bulunmuştur. Bu sonuç çocukken fiziksel şiddete tanıklık edenlerin ruh sağlığının daha kötü olduğunu göstermektedir ve hipotezimizi doğrulamaktadır.

Afganistan Nüfus ve Sağlık Araştırması'na göre hayatları boyunca herhangi bir şiddete maruz kalan kadınların yaklaşık yarısı babasının annesine psikolojik şiddetine, üç kişiden ikisi de fiziksel şiddetine tanıklık etmiştir.[27] ABD'de 20 yaş üzeri yaklaşık 15 bin erkeğin dahil edildiği bir çalışmada çocuklukta eş şiddetine tanık olan iki kişiden birinin fiziksel ve psikolojik şiddete maruz kaldığı bulunmuştur. Yine aynı çalışmada çocuklukta aile içi şiddete tanıklık etmenin erkekler için yetişkinlikte şiddet uygulama riskini oldukça artırdığı gösterilmiştir.[28] Afganistan ve ABD'de yapılan çalışmalar bizim çalışmamızla benzer olarak aile içi şiddete tanıklık edenlerin daha fazla şiddete maruz kaldığını ve şiddet uyguladığını göstermektedir.

Çalışmaya katılanların yaşamı boyunca %43,5'inin fiziksel şiddete, %24,4'ünün psikolojik şiddete maruz kaldığı, %22,8'nin ekonomik şiddete maruz kaldığı bulunmuştur. Çocukken babasının annesine şiddetine tanıklık oranlarına baktığımızda %49,8'inin fiziksel şiddete, %48,2'sinin psikolojik şiddete, %40,9'unun ekonomik şiddete tanıklık ettiği tespit edilmiştir. Şiddete uğrayan ya da tanıklık eden çocuklara erken müdahale ile sağlıklı bir şekilde şiddetle baş etmeleri ve olumsuz etkilerini hissetmeden hayatlarını sürdürmeleri sağlanmalıdır. Literatürde

şiddet uygulama açısından en büyük risk faktörünün çocuklukta şiddete maruz kalma olduğunu gösteren yayınlar da bulunmaktadır.[29]

Çevresinde şiddete tanıklık ettiğindeki tutumu sorgulandığında erkeklerin ilk sırada "Aile meselesi olduğunu düşünürüm, karışmam", ikinci sırada "Barıştırmaya çalışırım" ifadelerini seçerek şiddetin aile içinde gizli kalması gerektiğini düşündüklerini ve bir kadın şiddete maruz kaldığında ona yardım olarak şiddeti çözmek değil, barışmanın önemli olduğunu düşünmesi de bu durumu açıklar niteliktedir. Ankara'da yapılmış bir çalışmada, şiddet gördüğünde kadınların %45,8'i tam da erkeklerin istediği gibi hiçbir şey yapmadığını ortaya koyulmuştur.[30] Çevrelerindeki şiddeti ve olumsuz sonuçlarını önlemek için bireylere sorumluluk düştüğü, özellikle erkeklerin doğru yaklaşım sergilemesi için bu konuda eğitilmesi gerektiğini doğrular bir sonuç saptanmıştır.

Literatürde şiddete maruz kalan kadınların tedavi etkinliği izleminde GSA-12 skorlarının da kullanıldığı çalışmalar mevcuttur.[31] Hayat boyu fiziksel şiddete ya da psikolojik şiddete maruz kalanlarda, ruh sağlığını değerlendiren GSA-12 skorlarının psikolojik bozukluk varlığı lehine olduğu dikkat çeken bir bulgudur.

UNICEF'in 2014 yılında yayınladığı raporda 190 ülkenin verileri doğrultusunda, 15-19 yaş aralığındaki kız çocuklarının yaklaşık yarısı bazı durumlarda erkeğin eşine şiddet uygulamasını haklı görmektedir. Bazı ülkelerde örneğin; Ürdün, Afganistan, Gine, Doğu Timor ve Mali'de bu oran %80'in üzerine çıkmaktadır. Hatta Kamboçya, Moğolistan, Pakistan, Ruanda ve Senegal gibi bazı ülkelerde kocanın eşine şiddet uygulamasını haklı gören kız çocuklarının oranı erkeklerden çok daha yüksek orandadır.[32] Ankara'nın sosyoekonomik düzeyi düşük bir bölgesinde yapılmış çalışmada kadınların üçte biri hiçbir nedenle erkeğin eşine şiddet uygulamasını meşru görmezken, üçte ikisi en sık aldatırsa, eşinin sözünü dinlemezse, eşine yalan söylerse şiddeti haklı gördüğünü belirtmiştir.[33] Nijerya'da yapılmış kesitsel bir çalışmada kırsalda yaşayan kadınların neredeyse tümü, kentte yaşayan kadınların yarısı en az bir nedenle şiddeti meşru görmektedir. En sık çocukların bakımını ihmal ederse, eşinden izin almadan dışarı çıkarsa, eşinin sözlerine karşılık verirse şiddeti meşru gördüğünü belirtmiştir.[34] Kadınların da şiddeti meşru görme nedenlerinin azımsanmayacak düzeyde olması şiddete maruz kaldığında daha az yardım arayışına girmesine neden olabilecektir.

Katılımcıların ön ve son testte EKYŞİTÖ'nden aldıkları puanlar karşılaştırıldığında tüm alt boyutlarda anlamlı bir iyileşme gözlenmiştir. Ancak önceki çalışmalarda bu ölçek kullanılarak yapılmış bir müdahale araştırması olmadığı için başka çalışmalarla karşılaştırma yapılamamıştır.

İçinde yaşanılan toplumun ayrılmaya ilişkin inanç ve tutumlarının değiştirilmesi kısa süreli verilen eğitimlerden ziyade tüm toplumu kapsayacak şekilde geliştirilecek proje ve politikalarla mümkün olabilir.[34]

Erkeklerin şiddet önleme çalışmalarına dahil edilmesinin önemi pek çok çalışmada vurgulanmaktadır. Erkek şiddet uygulamaya meyilli olmasa bile şiddeti onaylamayan tutum kazanmasının sağlanması için müdahale çalışmalarına dahil edilmesi tavsiye edilmektedir.[35,36] Tanılama ve tedaviden önce esas olarak şiddetin önlenmesi ve toplum ruh sağlığının iyileştirilmesine yönelik yapılan koruyucu yönde verilen eğitimin önemli olduğu çalışmalarda vurgulanmaktadır.[37,38] Yaptığımız çalışmaya erkekleri de dahil etmemiz ve eğitimleri kadın-erkek birlikte vermemiz toplumsal cinsiyet eşitliğinin sağlanması açısından destekleyici olmuştur. Eğitim süresinin 5 saat olması ve afiş, el broşürü, sosyal medya araçlarını da kullanmamız müdahalenin etkisini güçlendirmiştir.

SONUÇ VE ÖNERİLER

Elde edilen bulguların değerlendirilmesi sonucu kadına yönelik şiddet eğitim müdahalesinin etkili olduğu belirlenmiştir. Etkili mücadele için kişilerin toplu bulunduğu yerlerde kadına yönelik şiddetle ilgili eğitimler düzenlenmelidir. Toplumsal cinsiyet temelinden gelişen kadına yönelik şiddetle bireysel mücadeleye kişilerin kendilerinden başlayarak, çevresi ve ailesi ile olan ilişkilerine yansıtması gerektiğine eğitimlerde yer verilmelidir.

Kadın-erkek eşitliğinin yaşamın her alanına yerleştirilmesi için politikalar geliştirilmelidir. Eşitliğin sağlanması ve kadın haklarının geliştirilmesi için destek olabilecek erkek grupları artırılmalıdır. Kadına yönelik şiddetle mücadeleye erkekleri dahil etmeye yönelik çalışma yapmak üzere çeşitli kamu kurumları, sivil toplum örgütleri ve özel kuruluşlara sorumluluk düşmektedir. Kadına yönelik şiddetle olan mücadeleye erkekleri dahil edip şiddet uygulayan erkeklerin eğitiminde görev almaları sağlanabilir.

Kadına yönelik ya da erkeğe yönelik şiddeti sıklıkla uygulayan erkeklerdir. Bu nedenle kadına yönelik şiddetin önlenmesi için erkekler öncelikli olmak üzere öfke denetimi ve iletişim becerileri gibi konularda eğitim çalışmaları yapılması önerilebilir. Şiddet uygulayan erkeklerin koruyucu, önleyici ve rehabilite edici sağlık hizmeti almalarının yasalarla zorunlu hale getirilmesi düşünülmelidir. Şiddet uygulamaya meyilli olan kişileri sağlık hizmeti almaya ikna etmek için nasıl davranması gerektiği konusunda sağlık çalışanlarına eğitim verilebilir.

İzleme çalışmaları ile şiddet mağduru kadınlardaki ruhsal bozukluklar ve ruhsal bozukluğu olanların maruz kaldığı şiddet riski ortaya koyularak, önleme çalışmaları planlanmalıdır. Boşanmış/eşi ölmüş/ayrı yaşayanlar için ulaşılabilir ve ücretsiz destek alabileceği sağlık hizmetleri mekanizmaları geliştirilmelidir. Ayrıca şiddete maruz kalan ve tanıklık edenlerin ruhsal sağlığının daha kötü olduğu bulunmuştur. Bu nedenle sağlık çalışanlarına şiddeti tanıma, tedavi ve yönlendirme açısından büyük görev düşmektedir. Sağlık çalışanları kadına yönelik şiddetin önlenmesinde savunucu rol üstlenmelidir.

Şiddetin varlığını erken dönemde tanıyıp önlemek için mücadele etmek kolluk kuvvetleri yanında sağlık profesyonellerinin de görevi olmalıdır. Halk sağlığı profesyonelleri de şiddete maruz kalan ya da kalma ihtimali bulunan kadınları aile hekimliği birimleriyle iş birliği yaparak tespit edip, kadına yönelik şiddetle mücadelede toplum eğitimi gibi alanlarda görev almalıdır.

KAYNAKLAR

1. World Health Organization. (2002). "World report on violence and health". Krug, E.G, Dahlberg, L.L, Mercy, J.A, Zwi, A.B, Lozano, R, editors. Geneva.
2. Murray, S. (2006). "Global injury and violence". Canadian Medical Association Journal, 174 (5): 620-621.
3. Rutherford, A, Zwi, A.B, Grove, N.J, Butchart, A. (2007). "Violence: a glossary". J Epidemiol Community Health, 61:676-680.
4. Ortabag, T, Ozdemir, S, Bebis, H, Ceylan S. (2014). "Perspectives of young adult men regarding violence against women: A cross-sectional study from Turkey". Journal of Family Violence, 29 (6),665-674.
5. Dönmez, G, Şimşek, H, Günay T. (2012). "Evli erkeklerde eşlerine yönelik şiddet ve ilişkili etmenler". Türkiye Halk Sağlığı Dergisi, 10 (3),151-159.
6. Güler, N, Tel, H, Tuncay, F.Ö. (2005). "Kadının Aile İçinde Yaşanan Şiddete Bakışı". Cumhuriyet Üniversitesi Tıp Fakültesi Dergisi, 27 (2):51-56.
7. Ergönen, T, Özdemir, M.H, Can, İ.Ö. (2003). "Aile İçi Şiddet Öykülü Abortus Olgularında Medikolegal Sorunlar Bir Olgu Sunumu". Adli Bilimler Dergisi, 2 (4),39-43.
8. United Nations. "Declaration on the Elimination of Violence against Women". A/RES/48/104 85th plenary meeting 20 December 1993. http://www.un.org/documents/ga/res/48/a48r104.htm Erişim Tarihi: 03.03.2023
9. World Health Organization. "Global Health Observatory (GHO) data. Violence against women".
10. Wong, J, Mellor, D. (2014). "Intimate partner violence and women's health and wellbeing: Impacts, risk factors and responses". Journal Contemporary Nurse, 46 (2):170-179.
11. Bell, S.A, Folkerth, A.L. (2016). "Women's Mental Health and Intimate Partner Violence Following Natural Disaster: A Scoping Review". Prehospital and Disaster Medicine, 31 (6):648-657.

12. Mavrikiou, P.M, Apostolidou, M, Parlalis, S.K. (2014). "Risk factors for the prevalence of domestic violence against women in Cyprus". The Social Science Journal, 51 (2):295-301.
13. Altınay, A.G, Arat, Y. "Violence Against Women in Turkey". A Nationwide Survey. Punto, İstanbul, 2009.
14. Kirk L, Terry S, Lokuge K, Watterson J.L. (2017). "Effectiveness of secondary and tertiary prevention for violence against women in low and lowmiddle income countries: a systematic review". BMC Public Health. 17 (1):622.
15. World Health Organization. (2013). "Global and regional estimates of violence against women: prevalence and health effects of intimate partner violence and non-partner sexual violence".
16. Yetiş, E.Ö, Kolluoğlu, P. (2022). "Toplumsal Cinsiyet Temelli Şiddetin Çözümünde Erkekler". 1. Baskı. Ankara: Nika Yeyınevi.
17. Heise L. (1998). "Violence Against Women: An Integrated, Ecological Framework". Violence Against Women, 4:3;262-290.
18. Kolburan, Ş.G. (2017). "Kadın Cinayetleri Konusunda Nedensel Bir Değerlendirme: Sahip Olma Güdüsü". Adli Tıp Bülteni, 22 (3):194- 199.
19. T.C. Aile, Çalışma ve Sosyal Hizmetler Bakanlığı Kadının Statüsü Genel Müdürlüğü. (2019). "Türkiye'de Kadın". Ankara.
20. Uz, K, Şenol, Y, Dal, A. (2018). "Antalya'da Bir Mantar Fabrikasında Çalışan Kadınlara Yönelik Ekonomik Şiddet Araştırması". II. Çukurova Kadın Çalışmaları Kongresi Özet Kitabı. Çukurova Üniversitesi Kadın Sorunları Araştırma ve Uygulama Merkezi (KADAUM).
21. Uz, K, Şenol, Y. (2019). "Antalya'da Bir Mantar Fabrikasının Çalışanlarında Kadına Yönelik Şiddet Algısının Saptanması Ve Eğitim Müdahalesinin Etkileri". Uzmanlık Tezi. T.C. Akdeniz Üniversitesi Tıp Fakültesi Halk Sağlığı Anabilim Dalı, Antalya.
22. Sakallı-Uğurlu, N, Ulu, S. (2003). "Evlilikte kadına yönelik şiddete ilişkin tutumlar: Çelişik duygulu cinsiyetçilik, yaş, eğitim ve gelir düzeyinin etkileri". Türk Psikoloji Yazıları, 6 (11-12),53-65.
23. Goldberg, D.P, Hillier, V.F. (1979). "A scaled version of the General Health Questionnaire". Psychological Medicine, 9 (1):139-145.
24. Kılıç, C. (1996). "Genel Sağlık Anketi: Güvenilirlik ve geçerlilik çalışması". Türk Psikiyatri Dergisi, 7 (1):3-9.
25. García-Moreno C, Hegarty K. (2015). "The Health-Systems Response to Violence Against Women". The Lancet Series. 385:1567-1579.
26. Akın, A. (2008). "Türkiye'de Kadına Yönelik Aile İçi Şiddetle Mücadelede Sağlık Hizmetleri". Ankara: AB, KSGM, T.C. Sağlık Bakanlığı, MFİB, UNFPA.
27. Afghanistan Demographic and Health Survey 2015. "The DHS Program ICF Rockville". Maryland, USA, 2017.
28. Roberts, A.L, Gilman, S.E, Fitzmaurice, G, Decker, M.R, Koenena, K.C. (2010). "Witness of Intimate Partner Violence in Childhood and Perpetration of Intimate Partner Violence in Adulthood". Epidemiology, 21 (6):809-818
29. İbiloğlu, A.O. (2012). "Aile İçi Şiddet". Psikiyatride Güncel Yaklaşımlar, 4 (2):204-222.
30. Ünal, S. (2010). "Ankara İli Gölbaşı İlçesi 2 No'lu Sağlık Ocağı Bölgesinde 15-49 Yaş Dilimi Şiddet Gören ve Görmeyen Kadınlarda Beck Depresyon Ölçeğine göre Depresif Öğe Yükü". Yüksek Lisans Tezi, T.C. Ankara Üniversitesi Sağlık Bilimleri Enstitüsü, Halk Sağlığı Anabilim Dalı, Ankara.
31. Bryant, R.A, Schafer, A, Dawson, K.S, Anjuri, D, Mulili, C, et all. (2017). "Effectiveness of a brief behavioural intervention on psychological distress among women with a history of gender-based violence in urban Kenya: A randomised clinical trial". PLoS Med, 14 (8):1-20.
32. United Nations Children's Fund. (2014). "Hidden in Plain Sight. A statistical analysis of violence against children".
33. Yaman Efe, Ş, Ayaz, S. (2010). "Kadına yönelik aile içi şiddet ve kadınların aile içi şiddete bakışı". Anadolu Psikiyatri Dergisi, 11:23-29.
34. Ajah, L.O, Iyoke, C.A, Nkwo, P.O, Nwakoby, B, Ezeonu, P. (2014). "Comparison of domestic violence against women in urban versus rural areas of southeast Nigeria". International Journal of Women's Health, 6:865-872.
35. Birleşmiş Milletler Türkiye, #8MartDünyaKadınlarGünü, Hedef Toplumsal Cinsiyet Eşitliği, Sürdürülebilir Kalkınma Hedefleri. https://www.tr.undp.org/content/dam/turkey/docs/8martnotedesign.pdf Erişim Tarihi: 10.04.2023
36. Flood, M. (2011). "Involving Men in Efforts to End Violence Against Women". Men and Masculinities,14 (3) 358-377.
37. Flood, M. (2015). "Work with men to end violence against women: a critical stocktake". Culture, Health & Sexuality, 17 (2):159-176.
38. Çivitci, A. (2018). "Grup Psikoeğitimi". 1. Baskı Pegem Akademi. Ankara.

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Xgboost Algoritmasıyla Polikistik Over Sendromu Teşhisi

Diagnosis Of Polycystic Ovary Syndrome With Xgboost Algorithm

Ömer Çağrı YAVUZ[1]

ÖZ

Karmaşık bir endokrin bozukluk olan Polikistik Over Sendromu (PKOS), üreme çağındaki kadınları etkilemektedir. Adet düzensizlikleri, hiperandrojenizm ve polikistik overler gibi çeşitli semptomların kombinasyonunu barındırır. Ultrasonda artan sayıda stroma ve folikül varlığı polikistik yumurtalıkları ifade etse de bu durum PKOS tanısı için yeterli görülmemektedir. Metabolik anormallikler, kadın tipi saç dökülmesi, cinsel tatmin ve depresyon PKOS ile ilişkilendirilmektedir. Bu ilişkilerin anlamlandırılması ve analiz edilmesi PKOS teşhisi için önem arz etmektedir. Bu çalışma kapsamında son yıllarda literatürde sıklıkla kullanılan ve diğer algoritmalara göre daha hızlı ve güvenli olduğu belirtilen XGBoost algoritmasıyla PKOS'un teşhis edilmesi amaçlanmıştır. Bu doğrultuda Kaggle veri tabanından alınmış ve toplamda 541 kayıttan oluşan veri setine XGBoost algoritması uygulanmıştır. Çalışmada kullanılan veri seti Kerala (Hindistan)'da yer alan 10 farklı hastaneden elde edilmiştir. Ayrıca kategorik verilerin algoritma performansı üzerindeki etkilerinin incelenmesi amaçlanarak farklı veri setleri oluşturularak performansları değerlendirilmiştir. Son olarak veri setindeki dağılımın performans üzerindeki etkisinin ortaya konulması amaçlanarak veri seti dengeli hale getirilerek performans test edilmiştir. 541 kayıttan oluşan veri setiyle 0,87 doğruluk değeri elde edilmiştir. Çalışmada elde edilen performans metrikleri doğrultusunda sağlık alanında sınıflandırma problemlerinin çözümünde XGBoost algoritmasının katkı sağlayacağı söylenebilir.

Anahtar Kelimeler: Polikistik Over Sendromu, Sağlık Bilişimi, Sınıflandırma

ABSTRACT

Polycystic Ovary Syndrome (PCOS), a complex endocrine disorder, affects women of reproductive age. It involves a combination of symptoms including menstrual irregularities, hyperandrogenism and polycystic ovaries. Although the presence of an increased number of stroma and follicles on ultrasound indicates polycystic ovaries, this is not considered sufficient for the diagnosis of PCOS. Metabolic abnormalities, female pattern hair loss, sexual satisfaction and depression are associated with PCOS. Making sense of and analyzing these relationships is important for the diagnosis of PCOS. This study aims to diagnose PCOS with the XGBoost algorithm, which is frequently used in the literature in recent years and is reported to be faster and safer than other algorithms. In this direction, XGBoost algorithm was applied to the dataset taken from the Kaggle database and consisting of 541 records in total. The dataset used in the study was obtained from 10 different hospitals in Kerala (India). In addition, in order to examine the effects of categorical data on algorithm performance, different data sets were created and their performances were evaluated. Finally, the performance was tested by balancing the data set in order to reveal the effect of the distribution in the data set on the performance. With a dataset of 541 records, an accuracy value of 0,87 was obtained. In line with the performance metrics obtained in the study, it can be said that the XGBoost algorithm will contribute to the solution of classification problems in the field of health.

Keywords: Polycystic Ovary Syndrome, Health Informatics, Classification

[1] Dr. Öğr. Üyesi, Ömer Çağrı YAVUZ, Makine Öğrenmesi, Trabzon Üniversitesi, Yönetim Bilişim Sistemleri, omercagriyavuz@gmail.com, ORCID: 0000-0002-6655-3754

İletişim / Corresponding Author: Ömer Çağrı YAVUZ
e-posta/e-mail: omercagriyavuz@gmail.com

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GİRİŞ

Yapay Zekâ, temelde akıllı canlılara ait davranış ve düşünce biçimlerinin sistemlere aktarılmasına dayanır. Akıllı davranışlar problem çözme, örüntü tanıma, öğrenme ve bilgiyi kullanma gibi özellikler içerir. Bu doğrultuda yapay zekâ disiplininin amacı akılcı veya insan gibi davranış ve düşünceleri cihaz ve sistemlere aktarmaktır. Davranışlarla birlikte muhakeme sürecinin de dikkate alındığı insan gibi düşünen sistemlerde zihinsel süreçler anlaşılmaya çalışılır.[1] Sorulan sorular doğrultusunda muhatabın insan veya makine olma durumunun araştırıldığı Turing Testi, yapay zekâ çalışmalarının öncülerinden kabul edilmektedir.[2] Turing testinde insan gibi davranan bir model geliştirilmesi amaçlanmaktadır. Turing testinde ele alınan "Makineler düşünebilir mi?" sorusuyla makinelerin düşünebilme durumu ortaya konulmuştur.[3] Bu sorunun cevabı aranırken önceki bilgisayarlardan farklı olarak problem çözümünde veri saklama işleminden faydalanılmıştır. Önceki bilgisayarların fonksiyonlarından farklı olarak veri depolama ve güncelleme işlemleri sonraki süreçte geliştirilen bilgisayarların temelini oluşturmaktadır.

Turing testi yapay zekânın öncüsü olarak kabul edilse de "Yapay Zekâ" kavramı ilk olarak 1956 yılında New Hampshire, Dartmouth College'da bilgisayarların düşünebilme ihtimalinden bahsedilen Yapay Zekâ Üzerine Dartmouth Yaz Araştırma Projesi'nde ortaya atılmıştır.[4] İlerleyen süreçte bir dönem yapay zekâyı eleştiren raporlar yayımlansa da 1980'li yıllarda İngilizlerin Japonlarla rekabeti için fonladıkları yapay zekâ alanı yeniden gelişmeye başlamıştır.[5] Sonrasında temel mantığında öğrenme becerisi yatan yapay zekâ kavramı, farklı alanlarda çeşitli çalışmalarla gün geçtikçe gelişim göstermektedir.[6]

Yapay zekâ alanının bir dalı olan makine öğrenmesi, büyük miktardaki verilerin işlenmesi, analiz edilmesi ve örüntülerin tespit edilmesini sağlamaktadır. Makine öğrenmesi algoritmaları, tıp bilişimi ve sağlık hizmetleri uygulamalarında da sıklıkla kullanılmaktadır. Bu algoritmalar sağlık uygulamalarında etkinlik, verimlilik ve güvenilirlik açısından katkı sağlamaktadır. Sağlık alanında büyük miktardaki verilerin analizinde çeşitli zorluklar yaşanmaktadır. Makine öğrenmesi algoritmaları, karmaşık problemlerin çözülmesi ve karar süreçlerine katkı sağlamak amaçlanarak verilerin işlenmesi ve analiz edilmesi noktasında yardımcı olmaktadır. Derin öğrenme algoritmalarıyla birlikte bu algoritmalar sınıflandırma problemlerinin çözümünde verimlilik ve güvenilirlik açısından etkinlik göstermektedir.[7] Sağlık alanında hastalıkların tahmin edilmesi ve tedavi planlarının optimizasyonu gibi amaçlarla kullanılan makine öğrenmesi algoritmalarında operasyonel ve metodolojik zorluklar yaşanmaktadır. [8]

Polikistik Over Sendromu (PKOS), adet düzensizlikleri, hiperandrojenizm ve polikistik overlar ile ilişkili karmaşık bir endokrin bozukluktur. Metabolik anormallikler, kadın tipi saç dökülmesi, cinsel tatmin ve depresyon PKOS ile ilişkilendirilmektedir. Bu ilişkilerin anlamlandırılması ve analiz edilmesi PKOS teşhisi için önem arz etmektedir. Ancak PKOS'un teşhis ve tedavisinde daha fazla araştırmaya ihtiyaç duyulduğu söylenebilir. [9]

Teşhisinde birçok kriter ele alınsa da PCOS tedavi süreci, sendromun nedeni ve gen regülasyonu açısından bazı belirsizlikleri barındıran bir hastalıktır. Bu doğrultuda toplanan veriler ışığında genlerin birbirleriyle ilişkisinin incelenerek belirsizliklerin giderilmesi, etkin ve ucuz tedavi yöntemlerinin geliştirilebileceği belirtilmektedir. [10]

PCOS gibi hastalıkların teşhisinde verilerin analiz edilmesi, karar sürecinin otomatikleştirilmesi ve karmaşık kararlara destek sağlanması amacıyla çeşitli makine öğrenmesi algoritmaları kullanılmaktadır. Bu çalışma kapsamında Hindistan'da 10 farklı

hastaneden elde edilen veri seti kullanılarak Polikistik Over Sendromu'nun teşhis edilmesinde makine öğrenmesi algoritmalarının uygulanabilirliğinin test edilmesi amaçlanmıştır. Bu amaç doğrultusunda sağlık alanında sıklıkla kullanılan ve yüksek başarım gösteren XGBoost algoritması kullanılarak performans metrikleri incelenmiştir. Yapılan uygulamada 44 farklı parametreye bağlı olarak PKOS tanısının hızlı ve etkin bir şekilde gerçekleştirilmesi amaçlanmaktadır. Ayrıca bu çalışma kapsamında yapılan uygulamada elde edilen performans metriklerine bağlı olarak karmaşık karar problemlerini içeren hastalık teşhisine yönelik uygulamalarda makine öğrenmesi algoritmalarının kullanımının sürece katkı sağlayacağı öngörülmektedir.

Polikistik Over Sendromu

Karmaşık bir endokrin bozukluk olan PKOS, üreme çağındaki kadınları etkilemektedir. Adet düzensizlikleri, hiperandrojenizm ve polikistik överler gibi çeşitli semptomların kombinasyonunu barındırır. Ultrasonda artan sayıda stroma ve folikül varlığı polikistik yumurtalıkları ifade etse de bu durum PKOS tanısı için yeterli görülmemektedir.[11] Metabolik anormalilikler, depresif belirtiler, kadın tipi saç dökülmesi, cinsel tatminin PKOS ile ilişkili olduğu belirtilmektedir.[12] Örnek bir çalışmada depresyon belirtileri olan PCOS'lu kadınların, depresif belirtilen göstermeyen kadınlara göre daha düşük testosteron seviyesine sahip olduğu vurgulanmıştır.[13] Yine benzer bir çalışmada depresif belirtilerin yüksek testosteron seviyeleri ile ilişkili olduğu belirtilmiştir. [14]

Depresif belirtilere ek olarak metabolik anormallikler de PKOS ile ilişkilendirilmektedir. Örnek olarak hiperinsülinemi, insülin direnci, obezitenin PKOS'lu kadınlarda sıklıkla görüldüğü belirtilmektedir.[15] Ayrıca kadın tipi saç dökülmesine sahip kadınların PKOS'a sahip olma olasılıklarının daha yüksek olduğu belirtilmiştir.[16] Son olarak PKOS'un cinsel tatmini etkilediği de yapılan araştırmalarla ortaya konulmuştur. [17]

MATERYAL VE METOT

Veri Seti

Çalışma kapsamında kullanılan veri seti toplamda 44 parametreden oluşmakta olup Kaggle veri tabanından alınmıştır. Bu veriler Kerala (Hindistan)'da yer alan 10 farklı hastaneden elde edilmiştir. Veri setinde yer alan öznitelikler PKOS ve kısırlık teşhisinde le alınan fiziksel ve klinik parametreleri içermektedir. Bu parametreler arasında yaş, kilo, kan grubu, evlilik durumu, hamilelik durumu, bel kalça oranı, vitaminler, glikoz testi gibi öznitelikler yer almaktadır. Toplamda 541 kayıttan oluşan veri setin 1 değeri PKOS tanısı konulan kadınları temsil ederken, 0 değeri PKOS tanısı konulmayan hastaları temsil etmektedir. Hasta numarası ve dosya numarası gibi sonuca etki etmeyen parametreler veri setinden çıkarılmıştır. Elde edilen veri setinde yer alan öznitelikler aşağıda verilmiştir.

- PCOS (1/0)
- Yaş
- Ağırlık (Kg)
- Vücut Kitle Endeksi
- Kan Grubu
- Nabız (bpm)
- Risk Oranı
- Hemoglobin seviyesi (g/dl)
- Siklus (R/I)
- Siklus Süresi (gün)
- Evlilik Durumu
- Hamilelik
- Kürtaj Sayısı
- I beta-HCG hormonu (mIU/mL)
- II beta-HCG hormonu (mIU/mL)
- Folikül Uyarıcı Hormon (FSH-mIU/mL)

- Lüteinizan Hormonu (LH-mIU/mL)
- FSH/LH
- Kalça (inch)
- Bel (inch)
- Bel – Kalça Oranı
- Tiroid Uyarıcı Hormon (mIU/L)
- Antimülleryen Hormon (ng/mL)
- Prolokatin (ng/mL)
- D3 Vitamini (ng/mL)
- Progesteron Hormonu
- Alyuvar Sayısı (mg/dl)
- Kilo artışı
- Kıllanma (1/0)
- Cilt Kararması (1/0)
- Saç Dökülmesi (1/0)
- Sivilce (1/0)
- Fast food tüketimi (1/0)
- Reg. Egzersizi (1/0)
- Sistolik Kan Basıncı (mmHg)
- Diastolik Sistolik Değer (mmHg)
- Folikül No. (L)
- Folikül No. (R)
- Ortalama F Büyüklüğü (L) (mm)
- Ortalama F Büyüklüğü (R) (mm)
- Endometrium (mm)

İki farklı veri seti ile yapılan uygulamada pozitif kayıtların sayısı 177 iken negatif kayıtların sayısı 364'tür.

XGBoost (Extreme Gradient Boosting) Algoritması

Sınıflandırma problemlerinin çözümünde sıklıkla kullanılan XGBoost algoritması veri kümelerinin işlenmesi ve analizinde fayda sağlamaktadır. XGBoost, sınıflandırma performansını arttırarak tahminlerin doğruluğunu yükseltmek için çoklu zayıf öğreniciler ve özellikle karar ağaçlarının tahminlerini birleştiren bir makine öğrenmesi algoritmasıdır. [18]

Yinelemeli karar ağaçlarını bünyesinde barındıran XGBoost algoritması, karar ağaçları üreterek çalışır ve oluşturulan her yeni ağaç hataları optimize etmeyi amaçlar. Gerçek değerler ve tahmin edilen değerler arasındaki farklılıklar eğitim sürecinde kayıp fonksiyonunu iyileştirir. Yeni oluşturulan ağacın öncesinde oluşturulan ağaçlarda yer alan hataları indirgeyecek şekilde eğitimini ifade eden gradyan güçlendirmeyi kullanır. Yinelemeli bir yapıya sahip olmasına rağmen XGBoost algoritmasının diğer algoritmalara göre 10 kat daha hızlı çalıştığı vurgulanmaktadır. [19]

XGBoost'un en önemli avantajlarından biri, eksik verileri ve aykırı değerleri etkili bir şekilde işleme yeteneğidir. Ağaç oluşturma işlemi sırasında varsayılan yönler atayarak eksik değerleri işlemek için yerleşik mekanizmalara sahiptir. Ek olarak, XGBoost, modelin karmaşıklığını kontrol etmeye ve genelleştirme yeteneğini geliştirmeye yardımcı olan teknikler kullanır. XGBoost algoritmasının bu yönleriyle literatürde sıklıkla kullanılan diğer algoritmalarda yer alan sorunların ortadan kaldırılmasında katkı sağladığı belirtilmektedir. Ayrıca XGBoost algoritmasının Kaggle ve KDDCup gibi organizasyonların makine öğrenmesi yarışmalarında kazanan uygulamalarda öne çıktığı belirtilmektedir. [20]

Sağlık alanında yer alan sınıflandırma problemlerinde de sıklıkla kullanılan XGBoost algoritmasıyla yüksek başarım elde edilmektedir.[21-24] Özetle, XGBoost algoritması, makine öğrenmesi uygulamalarında popüler bir seçim haline gelmektedir. Bu çalışma kapsamında regularizasyon, seyreklik uyumu, ağırlıklı çeyrek çizim ve çapraz doğrulama imkânı sunan ve 2016 yılında geliştirilen XGBoost algoritmasıyla PCOS sendromunun teşhis edilmesi amaçlanmıştır.

Performans Metrikleri

Makine öğrenmesi algoritmalarıyla yapılan uygulamalarda elde edilen performans karışıklık matrisi ile ifade

edilebilmektedir. Bahsedilen karışıklık matrisi Tablo 1'de verilmiştir.

Tablo 1. Karışıklık Matrisi

		Gerçek Değer	
		Pozitif (1)	**Negatif (0)**
Tahmin Edilen Değer	**Pozitif (1)**	TP [1,1]	FN [1,0]
	Negatif (0)	FP [0,1]	TN [0,0]

Yukarıdaki tabloda;

TP (True Positive), doğru tahmin edilen 1 değerlerinin sayısını,

TN (True Negative), doğru tahmin edilen 0 değerlerinin sayısını,

FN (False Negative), yanlış tahmin edilen 1 değerlerinin sayısını,

FP (False Positive), yanlış tahmin edilen 0 değerlerinin sayısını ifade eder.

Yukarıda karışıklık matrisinde yer alan değerler doğrultusunda çalışma kapsamında XGBoost algoritmasının performansının ortaya konulması amacıyla kullanılan doğruluk (accuracy), kesinlik (precision), duyarlılık (recall) ve f1 skorunun formülleri aşağıda verilmiştir.

Doğruluk:

$$\frac{(TP + TF)}{(TP + TF + FP + FN)}$$

Duyarlılık:

$$\frac{TP}{(TP + FN)}$$

Kesinlik:

$$\frac{TP}{(TP + FP)}$$

F1 Skoru:

$$2 * \frac{Kesinlik * Duyarlılık}{Kesinlik + Duyarlılık}$$

BULGULAR VE TARTIŞMA

Çalışma kapsamında Kaggle veri tabanından elde edilen ve toplamda 541 kayıttan oluşan veri setine XGBoost algoritması uygulanmıştır. Yapılan uygulamada 0,87 doğruluk değeri elde edilmiş olup kesinlik değeri, duyarlılık değeri ve f1 skoru Tablo 2'de verilmiştir.

Tablo 2. Performans Metrikleri

	Kesinlik	Duyarlılık	F1 Skoru
0	0,89	0,94	0,91
1	0,84	0,74	0,79

Yapılan uygulama sonrasında öznitelikler içerisinden hamilelik durumu, kıllanma, kilo alma durumu, cilt koyulaşması, saç dökülmesi, sivilce oluşma durumu, fast food tüketimi, egzersiz yapma durumu ve kan grubu gibi kategorik parametreler çıkarılmıştır. Kategorik değerler çıkarıldıktan sonra yapılan uygulamada elde edilen performans metrikleri Tablo 3'te verilmiştir.

Tablo 3. Performans Metrikleri (Kategorik Değerler Çıkarılan Veri Seti)

	Kesinlik	Duyarlılık	F1 Skoru
0	0,86	0,98	0,92
1	0,94	0,64	0,76

Sonrasında sadece kategorik özniteliklerden oluşan bir veri seti oluşturularak XGBoost algoritması uygulanmıştır. Yapılan uygulamada doğruluk değerinin 0,82'ye düştüğü görülürken elde edilen diğer performans metrikleri Tablo 4'te verilmiştir.

Tablo 4. Performans Metrikleri (Kategorik Değerler)

	Kesinlik	Duyarlılık	F1 Skoru
0	0,85	0,90	0,88
1	0,74	0,64	0,69

Tablo 4'te görüldüğü üzere kategorik değerlerin çıkarılmasıyla elde edilen veri seti ile yapılan uygulamada performans metriklerinde düşüş görülmüştür. Bu doğrultuda doğrudan kategorik verilerin

çıkarılmasından ziyade fazla sayıda öznitelik barındıran veri setlerinde özellik çıkarımı algoritmaları kullanılarak boyut azaltma işlemi sürecin basitleştirilmesi adına katkı sağlayabilir.

Hastalık teşhisine yönelik uygulamalarda veri setinde yer alan dağılımlara bağlı olarak çeşitli performans kayıpları yaşanabilmektedir. Bu bağlamda özellikle nadir görülen hastalıkların teşhisinde frekansa dayalı tahmin yapan algoritmalar yanıltıcı sonuçlar verebilmektedir. Bu tür performans kayıplarının önüne geçmek amacıyla çeşitli yeniden örnekleme yöntemleri uygulanmaktadır. Bu durum doğrultusunda çalışma kapsamında veri dağılımındaki dengesizliklerin sonuca etkisinin incelenmesi amaçlanarak WEKA'da bulunan ve alt veri kümesini oluşturmaya yarayan Resample filtresi uygulanmıştır. Uygulanan filtre ile pozitif ve negatif kayıtların sayısı 177'ye eşit olup toplamda 354 kayıt bulunmaktadır. Dengeli veri setiyle yapılan uygulamada 0,74 doğruluk değeri elde edilmiştir. Diğer performans metrikleri Tablo 5'te verilmiştir.

Tablo 5. Performans Metrikleri (Resample Uygulanan Veri Seti)

	Kesinlik	Duyarlılık	F1 Skoru
0	0,80	0,70	0,75
1	0,70	0,80	0,75

Makine öğrenmesi algoritmaları sağlık bilişimi alanında tedavi planlaması, görüntü işleme, hasta takibi ve hastalık teşhisi gibi birçok amaçla kullanılmaktadır. Bu uygulamalarda kullanılan algoritmaların büyük miktarda verilerin işlenmesi ve analiz edilmesi için önem arz ettiği söylenebilir. Son yıllarda popülaritesi artan ve makine öğrenmesi yarışmalarında başarı gösteren XGBoost algoritması da bu uygulamalarda sıklıkla kullanılmaktadır. Örnek olarak Zamanında tedavi uygulanmadığı takdirde ölüme neden olma ihtimali yüksek olan akut lenfoblastik lösemi hastalığının teşhisi için oluşturulan XGBoost modeliyle 0,98 f1 skoru elde edilmiştir. [26] Başka bir çalışmada dünyada kadınları etkileyen hastalıkların başında gösterilen göğüs kanserinin kanserinin teşhis edilmesi amaçlanarak XGBoost algoritması uygulanmıştır. Çalışma sonucunda 0,97 başarım elde edilmiştir. [27] Bu çalışma kapsamında PKOS sendromunun teşhisi amaçlanarak elde edilen veri setine XGBoost algoritması uygulanarak 0,87 başarım elde edilmiştir. Bu tür çalışmalardan hareketle hastalık teşhisine yönelik çalışmalarda XGBoost algoritmasının yüksek başarım gösterdiği söylenebilir. Buna ek olarak XGBoost algoritmasının hızlı hesaplama süresi ve büyük veri setlerinde etkisi, bu çalışma kapsamında XGBoost algoritmasının seçilme nedeni olarak ortaya konulabilir.

Yukarıda bahsedilen çalışmalara ek olarak bu çalışmada elde edilen performans metrikleri doğrultusunda XGBoost algoritmasının sınıflandırma problemlerinde yüksek başarım gösterdiği ve benzer çalışmalarda katkı sağlayacağı söylenebilir. Ancak bu yüksek başarım oranlarının klinik uygulamalarla doğrulanması gerekmektedir. Ayrıca XGBoost algoritmasıyla yapılan uygulamadan elde edilen genel performans veri setinin büyüklüğü ve çeşitliliğiyle sınırlı olabilir.

Bu çalışmanın sınırlamalarından biri de, kullanılan veri setinin sınırlı sayıda hasta verileri içermesi ve bu kayıtlarda yer alan eksiklerdir. Bu tür uygulamalarda eksik verilerin temizlenmesi veya tamamlanması amacıyla kullanılan yöntemlerin sonuçları etkileyebileceği göz ardı edilmemelidir. Ek olarak yapılan uygulamalarda PCOS'un farklı alt tiplerinin teşhisine yönelik bir ayrım yapılmadığı için bu alt tiplerin teşhisinde modelin performansını değerlendirmek de gelecekteki çalışmalar için önemlidir.

Çalışmada kullanılan veri seti, Kerala'da yer alan ve coğrafi olarak belirli bir bölgeden 10 farklı hastaneden elde edilmiş olup, farklı bölgelerde yer alan hasta kayıtlarından oluşan veri setleri üzerinde de test edilmesi gerekmektedir.

Bu çalışmadan farklı olarak PKOS sendromunun teşhis edilmesinin amaçlandığı bir çalışmada birden fazla makine öğrenmesi algoritması kullanılarak performansları

karşılaştırılmıştır. Çalışmada en yüksek doğruluk değerinin rastgele ormanlar algoritmasıyla yapılan uygulamada elde edildiği belirtilmiştir. [28]Bu tür çalışmalarda birden fazla algoritmanın kullanılmasının sonuca katkı sağlayacağı belirtilebilir. Ancak birden fazla algoritmanın kullanıldığı çalışmalarda performansların karşılaştırılmasıyla beraber algoritmaların birlikte kullanımı önerilmektedir. Her bir algoritmadan elde edilen sonuç değerinin nihai sonuca katkı sağlaması amaçlanarak oylama yöntemleriyle birleştirilmesi performans açısından katkı sağlayacaktır.

Bu çalışma kapsamında Kaggle veri tabanından elde edilen veri seti kullanılarak PCOS teşhisinde XGBoost algoritmasının uygulanabilirliğinin incelenmesi amaçlanmaktadır. Bu çalışmada her ne kadar somut veriler kullanılsa da PKOS teşhisine yönelik daha kapsamlı veri setlerine ihtiyacın hâsıl olduğu söylenebilir. Ayrıca doküman temelli araştırma ve uzman görüşüne bağlı olarak PCOS teşhisine yönelik kriterlerin indirgenmesi ve özellik çıkarım algoritmalarının kullanımı sürecin hızlı bir şekilde yürütülmesi adına katkı sağlayacaktır. Ek olarak daha kapsamlı veri setleriyle birlikte gerçek hastalara ait verilerle test grupları oluşturularak yapılan tahminlerle hastalık teşhisine yönelik uygulamaların güvenilirliğine katkı sağlanacağı söylenebilir.

Sonuç olarak, XGBoost'un PCOS teşhisinde etkin bir araç olabileceği sonucuna varılmakla birlikte, daha geniş ve çeşitli veri setleriyle yapılan çalışmaların, klinik doğrulamalarla desteklenmesinin ve oluşturulan modelin farklı alt tipleri ayırt edebilme kapasitesinin incelenmesinin gerekli olduğu vurgulanmalıdır. Bu tür gelişmiş yaklaşımlar, PCOS teşhisinde daha hızlı ve doğru sonuçlar elde edilmesine katkı sağlayabilir.

SONUÇ VE ÖNERİLER

Bu çalışma kapsamında birçok değişkenden etkilenen ve teşhisi için daha fazla araştırmaya ihtiyaç duyulduğu belirtilen PKOS'un teşhis edilmesi amaçlanarak Kerala (Hindistan)' da yer alan 10 farklı hastaneden elde edilen ve 544 kayıttan oluşan veri setine XGBoost algoritması uygulanmış ve 0,97 doğruluk değeri elde edilmiştir. Sonrasında veri seti üzerinde çeşitli revizyonlar yapılarak farklı setleri üzerinde performans metrikleri karşılaştırılmıştır. XGBoost gibi makine öğrenmesi algoritmalarının sağlık alanında bu tür sınıflandırma problemlerinin çözümünde kullanılması, hastalıkların erken teşhis edilmesini sağlayarak tedavi sürecini iyileştirebilir ve hastalıkla mücadelede önemli bir rol oynayabilir. Ancak, hastalık teşhisi için kullanılan makine öğrenmesi algoritmalarının performansı, veri setinin kalitesi, özellik seçimi yöntemleri ve kullanılan algoritmanın doğruluğu gibi faktörlere bağlıdır. Bu nedenle, hastalık teşhisi için makine öğrenmesi algoritmalarının kullanılması, dikkatli bir şekilde planlanmalı ve doğru veri analizi yöntemleriyle desteklenmelidir.

KAYNAKLAR

1. Russell, S.J. ve Norvig P. (2016). "Artificial intelligence: a modern approach". Malaysia: Pearson Education Limited.
2. Muggleton S. (2014). "Alan Turing and the development of Artificial Intelligence". AI communications, 27 (1), 3-10, 10,3233/AIC-130579
3. Machinery, C. (1950). "Computing machinery and intelligence-AM Turing". Mind, 59 (236), 433.
4. McCarthy J., Minsky M.L., Rochester N. ve Shannon C.E. (2006). "A proposal for the dartmouth summer research project on artificial intelligence". AI magazine, 27 (4), 12-12. https://doi.org/10,1609/aimag.v27i4.1904
5. Lewis, T. (2014). "A Brief History of Artificial Intelligence". Live Science. Erişim adresi: https://www.livescience.com/49007-history-of-artificial-intelligence.html (Erişim tarihi: 23.07.2023).
6. Öztürk K. ve Şahin M.E. (2018). "Yapay sinir ağları ve yapay zekâ'ya genel bir bakış". Takvim-i Vekayi, 6 (2), 25-36.
7. Rajeswari P., Sathishkumar V.E., Anilkumar C., Thilakaveni P. ve Moorthy U. (2023). "Big Data Analytics and Implementation Challenges of Machine Learning in Big data". Applied and Computational Engineering, p.233-238.

8. Pachamanova D., Tilson V. ve Dwyer-Matzky K. (2022). "Case article—Machine learning, ethics, and change management: A data-driven approach to improving hospital observation unit operations". INFORMS Transactions on Education, 22 (3). p.178-187. https://doi.org/10,1287/ited.2021.0251ca

9. Dewailly D. (2016) "Diagnostic criteria for PCOS: is there a need for a rethink?". Best Practice & Research Clinical Obstetrics & Gynaecology, 37, 5-11. https://doi.org/10,1016/j.bpobgyn.2016.03.009

10. Michelmore K.F., Balen A.H., Dunger D.B. ve Vessey M.P. (1999). "Polycystic ovaries and associated clinical and biochemical features in young women". Clinical endocrinology, 51 (6), 779-786. https://doi.org/10,1046/j.1365-2265.1999.00886.x

11. Ethirajulu A., Alkasabera A., Onyali C.B., Anim-Koranteng C., Shah H.E., Bhawnani N. ve Mostafa J.A. (2021). "Insulin resistance, hyperandrogenism, and its associated symptoms are the precipitating factors for depression in women with polycystic ovarian syndrome". Cureus, 13 (9). 10,7759/cureus.18013

12. Aydos, A., Öztemur, Y. ve Dedeoğlu, B. G. (2016). "Polikistik over sendromu ve moleküler yaklaşımlar". Türk Hijyen ve Deneysel Biyoloji Dergisi, 73(1), 81-88.

13. Jedel E., Gustafson D., Waern M., Sverrisdottir Y.B., Landen M., Janson P.O., Labrie F., Ohlsson C. ve Stener-Victorin E. (2011). "Sex steroids, insulin sensitivity and sympathetic nerve activity in relation to affective symptoms in women with polycystic ovary syndrome". Psychoneuroendocrinology, 36 (10):1470–9. https://doi.org/10,1016/j.psyneuen.2011.04.001

14. Standeven L.R., Olson E., Leistikow N., Payne J.L., Osborne L.M. ve Hantsoo, L. (2021). "Polycystic ovary syndrome, affective symptoms, and neuroactive steroids: a focus on allopregnanolone". Current psychiatry reports, 23 (6), 36. https://doi.org/10,1007/s11920-021-01244-w

15. Kuntal C., Vyas J., Chaudhary A., Hemani S. ve Rajoria L. (2021). "A study of metabolic syndrome in women with polycystic ovary syndrome at tertiary care center". International Journal of Reproduction, Contraception, Obstetrics and Gynecology, 10 (6), 2427-2432.

16. Jiang V.S., Hawkins S.D. ve McMichael A. (2022). "Female pattern hair loss and polycystic ovarian syndrome: more than just hirsutism". Current Opinion in Endocrinology & Diabetes and Obesity, 29 (6), 535-540, https://doi.org/10,1097/MED.0000000000000777

17. Kałużna M., Nomejko A., Słowińska A., Wachowiak-Ochmańska K., Pikosz K., Ziemnicka K. ve Ruchała M. (2021). "Lower sexual satisfaction in women with polycystic ovary syndrome and metabolic syndrome". Endocrine Connections, 10 (9), 1035-1044. https://doi.org/10,1530/EC-21-0257

18. Sharma A. ve Verbeke W.J. (2020). "Improving diagnosis of depression with XGBOOST machine learning model and a large biomarkers Dutch dataset (n= 11,081)". Frontiers in big Data, 3, 15. https://doi.org/10,3389/fdata.2020,00015

19. Chen T. ve Guestrin C. (2016). "Xgboost: A scalable tree boosting system". In Proceedings of the 22nd acm sigkdd international conference on knowledge discovery and data mining, 785-794. https://doi.org/10,1145/2939672.2939785

20. Dhaliwal S.S., Nahid A.A. ve Abbas R. (2018). "Effective intrusion detection system using XGBoost". Information, 9 (7), 149. https://doi.org/10,3390/info9070149.

21. Ning Y.L., Sun C., Xu X.H., Li L., Ke Y.J., Mai Y., ... Chen W.T. (2023). "Tendency of dynamic vasoactive and inotropic medications data as a robust predictor of mortality in patients with septic shock: An analysis of the MIMIC-IV database". Frontiers in Cardiovascular Medicine. 10, 1126888. https://doi.org/10,3389/fcvm.2023.1126888

22. Chen S., Zhou W., Tu J., Li J., Wang B., Mo X., Tian G., Lv K. ve Huang Z. (2012). "A novel XGBoost method to infer the primary lesion of 20 solid tumor types from Gene expression data". Frontiers in genetics, 12, 632761. https://doi.org/10,3389/fgene.2021.632761

23. Ogunleye A. ve Wang Q.G. (2019). "XGBoost model for chronic kidney disease diagnosis". IEEE/ACM transactions on computational biology and bioinformatics, 17 (6), 2131-2140, 10,1109/TCBB.2019.2911071

24. Sharma N. (2018). "XGBoost. The extreme gradient boosting for mining applications". Munich: GRIN Verlag.

25. Ramraj S., Uzir N., Sunil R. ve Banerjee S. (2016). "Experimenting XGBoost algorithm for prediction and classification of different datasets". International Journal of Control Theory and Applications, 9(40), 651-662.

26. Ramaneswaran S., Srinivasan K., Vincent, P.D.R ve Chang C.Y. (2021). "Hybrid inception v3 XGBoost model for acute lymphoblastic leukemia classification". Computational and Mathematical Methods in Medicine, 1-10, https://doi.org/10,1155/2021/2577375

27. Liew, X.Y., Hameed N. ve Clos J. (2021). "An investigation of XGBoost-based algorithm for breast cancer classification". Machine Learning with Applications, 6, 100154. https://doi.org/10,1016/j.mlwa.2021.100154

28. Denny A., Raj A., Ashok A., Ram C.M. ve George R. (2019) "i-hope: Detection and prediction system for polycystic ovary syndrome (pcos) using machine learning techniques". In TENCON 2019-2019 IEEE Region 10 Conference (TENCON), 673-678. IEEE.

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Doğum Sonu Dönemde Primipar Kadınlara Verilen Online Emzirme Danışmanlığının Emzirme Özyeterliliği ve Ek Gıdaya Başlama Zamanı Üzerine Etkisi

The Effect of Online Breastfeeding Counseling Given to Primiparous Women in the Postpartum Period on Breastfeeding Self-Efficacy and Time to Start Supplementary Food

Beyza ÖZTÜRK[1], Meltem DEMİRGÖZ BAL[2]

ÖZ

Bu çalışma, doğum sonrası dönemde online emzirme danışmanlığının emzirme öz yeterliliği ve ek gıdaya başlama zamanı üzerine etkisini incelemek amacıyla planlanmıştır.

Veriler araştırmacılar tarafından hazırlanan tanıtıcı bilgi formu ve Emzirme Özyeterliliği Ölçeği kullanılarak toplanmıştır. Randomize kontrollü tipteki bu çalışma 94 primipar kadın ile yürütülmüştür. Girişim grubuna 1, 2, 4 ve 6. aylarda bireysel online emzirme danışmanlığı sağlanmıştır. Kontrol grubuna herhangi bir girişimde bulunulmamıştır. Doğum sonrası altıncı ay tamamlandığında, hem girişim hem de kontrol gruplarında emzirme durumu ve öz yeterlilik düzeyi değerlendirilmiştir.

Başlangıçtaki sosyodemografik özellikler her iki grup arasında benzerlik göstermektedir. Online sonrasında girişim grubunda emzirmeye devam etme ve emzirme öz yeterlilik puanları kontrol grubuna kıyasla anlamlı derecede yüksek bulunmuştur ($p<0,05$). Ancak kontrol grubunda da öz yeterlilik puanları zamanla artmıştır ($p<0.05$). Kontrol grubunda on katılımcı, erken ek gıdaya başlama gerekçesi olarak sütün yetersizliğini bildirmiştir.

Online danışmanlığın emzirmeye devam etme ve öz yeterlilik üzerinde anlamlı bir etkisi olmuştur. Bununla birlikte, ek gıdaya başlama nedenleri göz önünde bulundurularak danışmanlık verilmesinin önemli olabileceği düşünülmektedir.

Anahtar Kelimeler: Emzirme, Laktasyon, Danışmanlık, Tele sağlık, Destek.

ABSTRACT

This study aimed to examine the effect of online breastfeeding counseling on breastfeeding self-efficacy and timing of supplementary food initiation in the postpartum period.

Data were collected using an introductory information form prepared by the researchers and the Breastfeeding Self-Efficacy Scale. A randomized controlled trial was conducted with 94 primiparous women. The experimental group received individual online breastfeeding counseling at 1, 2, 4, and 6 months. The control group did not receive any interventions. At seven months postpartum, breastfeeding status and self-efficacy level were assessed in both the experimental and control groups.

The baseline sociodemographic characteristics were similar in both groups. After online counseling, breastfeeding continuation and self-efficacy were significantly higher in the experimental group than in the control group ($P <0.05$). However, the self-efficacy scores in the control group also increased over time ($p<0.05$). Ten participants in the control group reported insufficient milk intake as the reason for starting early supplementary food.

Online counseling had a significant effect on breastfeeding continuation and self-efficacy. However, it may be important to provide counseling considering the reasons for starting supplementary food.

Keywords: Breastfeeding, Lactation, Counseling, Telehealth, Support.

[1] Ebe, Beyza ÖZTÜRK, Ebelik, Marmara Üniversitesi, Sağlık Bilimleri Enstitüsü, Ebelik Bölümü, akturkbeyza0@gmail.com, ORCID: 0000-0001-9467-3908
[2] Prof.Dr., Meltem DEMİRGÖZ BAL, Ebelik, Marmara Üniversitesi, Sağlık Bilimleri Enstitüsü, Ebelik Bölümü, meltemdemirgoz@gmail.com, ORCID: 0000-0003-4009-7137

İletişim / Corresponding Author: Beyza ÖZTÜRK
e-posta/e-mail: akturkbeyza0@gmail.com

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GİRİŞ

Emzirme, bebek beslenmesinde en uygun yöntem olarak kabul edilmektedir ve hem anne hem de çocuk için sayısız sağlık yararı sunmaktadır.[1] Annenin emzirmesi doğum sonrası kanama, doğum sonrası depresyon, kardiyovasküler hastalık, diabetes mellitus, meme/over kanseri, osteoporoz ve romatoid artrit riskini azaltır. Ayrıca, anne-bebek bağı, annenin kilo kaybı ve doğum kontrol etkileri de çok önemlidir. Ekonomik faydalar ve çevre kirliliğinin azaltılması da önemli etkiler arasında sayılabilir.[2] Anne sütü bebeğin ilk altı ayında ihtiyaç duyduğu tüm elementleri içerir. Bebeğin büyüme ve gelişmesinde, zekasının gelişmesinde, sakinleşmesinde önemli rol oynar. Anne sütünün etkisi ileriki yaşlarda ciddi sağlık sorunlarının gelişmesini engeller. [3]

Emzirmenin iyi belgelenmiş faydalarına rağmen, emzirme oranları doğumdan sonraki ilk birkaç ay içinde, özellikle de ilk kez anne olanlar arasında hızla düşmektedir.[4] Küresel olarak, bebeklerin %44'ü doğumdan sonraki ilk saat içinde emzirilmekte ve altı aylıktan küçük bebeklerin yalnızca %42'si anne sütüyle beslenmektedir. Türkiye'de yenidoğanların %71,3'ü doğumdan sonraki ilk bir saat içinde emzirilmekte, ancak yenidoğanların %41,7'sine yaşamlarının ilk üç gününde anne sütü dışında sıvı veya gıda verilmektedir. [5] Dünya Sağlık Örgütü (DSÖ) ve Birleşmiş Milletler Çocuklara Yardım Fonu (UNICEF), düşük emzirme oranlarına sahip ülkelerde (ABD, Birleşik Krallık, Fransa, Japonya vb.) emzirme oranlarını yükseltmek için çeşitli projeler geliştirmekte ve uygulamaktadır. Bu projeler kapsamında, yüksek emzirme oranlarına sahip ülkelerden (Norveç, Peru, Malawi vb.) girişimler ve bilgiler aktarılmakta, emzirme danışmanlığı hizmetleri geliştirilmekte, anne dostu çalışma ortamları sağlanmakta ve anne sütü ikame ürünlerinin pazarlanmasının düzenlenmesi gibi konularda çalışmalar yapılmaktadır. [6,7]

Yetersiz bilgi, destek eksikliği ve düşük emzirme öz yeterliliği, emzirme oranlarındaki düşüşe katkıda bulunan faktörler arasındadır. Bir annenin başarılı bir şekilde emzirme yeteneğine olan inancı olarak tanımlanan öz yeterlilik, emzirme sonuçlarını etkileyebilecek önemli bir psikolojik faktördür. Öz yeterliliği yüksek olan annelerin daha uzun süre emzirmesi ve ek gıdaya daha geç başlaması daha olasıdır.[8]

Çalışmalar, primipar kadınların emzirmeyi erken bırakma ve ek gıdaya erken geçme risklerinin daha yüksek olduğunu göstermiştir. Özellikle ilk kez emziren anneler, emzirme yolculuğuna başlarken benzersiz zorluklar ve belirsizliklerle karşılaşmaktadır.[1-5] Bu zorluklar kültürel inançlardan, toplumsal normlardan ve ülkeye özgü sağlık uygulamalarından kaynaklanabilmektedir. Başarılı bir emzirmeyi teşvik etmek için primipar kadınlara özel ihtiyaçlarını ve endişelerini ele alan kapsamlı destek sağlamak çok önemlidir.[9-10]

Online danışmanlık, bireylerin destek ve bilgiye kolay erişimini sağlayabilmektedir. Ayrıca, ihtiyaç duydukları yardımı almanın uygun, ekonomik, kişisel, gizli ve güvenilir bir yoludur. Online danışmanlık, emzirme desteği arayanlar için de değerli bir seçenek olabilir çünkü kişinin kendi evinin rahatlığında yapılabilmektedir.[11-12] Bu özellikle emziren anneler için faydalı olabilir çünkü bebekleri uyurken veya beslenirken danışmanlık seanslarına kolayca katılabilmektedir. Danışman, kadının emzirmeyle ilgili yanlış bilgi veya becerilerini erkenden düzeltme şansını yakalayabilmektedir. Farklı ülkelerde yapılan birçok çalışma, online emzirme danışmanlığının emzirme sonuçları üzerindeki olumlu etkisini göstermiştir; bunlar arasında daha yüksek emzirmeye başlama oranları, daha uzun süre sadece anne sütü ile beslenme ve annenin öz yeterliliğinde iyileşme yer almaktadır.[11-12] Ancak, online emzirme danışmanlığının Türkiye'deki primipar kadınlar arasında emzirmeye devam etme ve öz yeterlilik düzeyi üzerindeki etkisi hala belirsizdir. Nüfusu 85 milyonu aşan Türkiye, emzirme uygulamalarını etkileyebilecek benzersiz bir

sosyokültürel çeşitliliğe ve sağlık sistemine sahiptir.[13] Türkiye Nüfus ve Sağlık Araştırması'na (TNSA/2018) göre, Türkiye'de sadece anne sütü ile beslenme oranı birinci ayda %59'a, ikinci ayda %45'e ve dördüncü ayda %14'e düşmüştür.[14] Bu bulgu, Türk anneler arasında emzirmeyi teşvik edecek ve destekleyecek girişimlere ihtiyaç olduğunu göstermektedir. Bu nedenle, bu çalışmanın amacı, doğum sonrası ilk altı aya odaklanarak, Türkiye'deki primipar kadınlar arasında online emzirme danışmanlığının emzirmeye devam etme ve öz yeterlilik düzeyi üzerindeki etkisini incelemektir.

MATERYAL VE METOT

Bu randomize klinik çalışma Mayıs-Kasım 2022 tarihleri arasında büyük bir şehir hastanesinde yürütülmüştür. Hastane, çevre illerden de hasta kabul ettiği için katılımcılar çeşitlilik gösteren bir yapıya sahiptir. Şehir hastanesinde doğumunu yapan primipar tüm kadınlar rutin olarak laktasyon hemşiresi tarafından taburculuk işlemi öncesi danışmanlık almaktadırlar. Bu danışmanlık hizmeti sağlayan hemşire olası biası engellemek için çalışmadan haberdar edilmemiştir. Danışmanın emzirme ve laktasyona ilişkin sertifikası bulunmaktadır. Tüm danışmanlığı tek bir danışman sağlamıştır. Dahil edilme kriterlerine uyan tüm kadınlar araştırma konusu hakkında sözlü olarak bilgilendirilmiş, çalışmanın amacı açıklanmış ve yazılı bilgilendirilmiş onamları alınmıştır. Bu aşamada tanıtıcı bilgi formu ve emzirme özyeterlilik formu kadınlar tarafından doldurulmuştur. Randomizasyon sonrası girişim grubu 1, 2, 4 ve 6. aylarda WhatsApp video görüşmeleri aracılığıyla bireysel danışmanlık almıştır. Her görüşme ortalama 20 ila 25 dakika sürmüştür. 6. ayın sonunda hem girişim hem de kontrol grubuna ulaşılarak özyeterlilik ölçeği doldurtulmuş ve emzirme devamlılığı sorgulanmıştır. Her görüşmede özyeterliliğin artırılması ve emzirme devamlılığının sağlanması için emzirmenin faydaları, emzirme teknikleri, öz bakım, destek ve emzirmeye ilişkin kadının bireysel ihtiyaçlarına odaklanılmıştır. Her iki grupta da altıncı ayın sonunda bir takip değerlendirmesi yapılmıştır.

Dahil Edilme Kriterleri

Çalışmaya dahil edilme kriterleri en az 18 yaşında olmak, primipar olmak, gebe okuluna katılmamış olmak, emzirme danışmanlığı almamış olmak, iletişim sorunu yaşamamak, Türk vatandaşı olmak, okuma yazma bilmek, akıllı telefon kullanmak ve çalışmaya katılmaya istekli olmaktır.

Dışlama Kriterleri

Girişim grubunda dört eğitim oturumunu tamamlayamayan kadınlar ve altıncı ayın sonunda her iki grupta da ulaşılamayan kadınlar bu çalışmanın dışında bırakılmıştır.

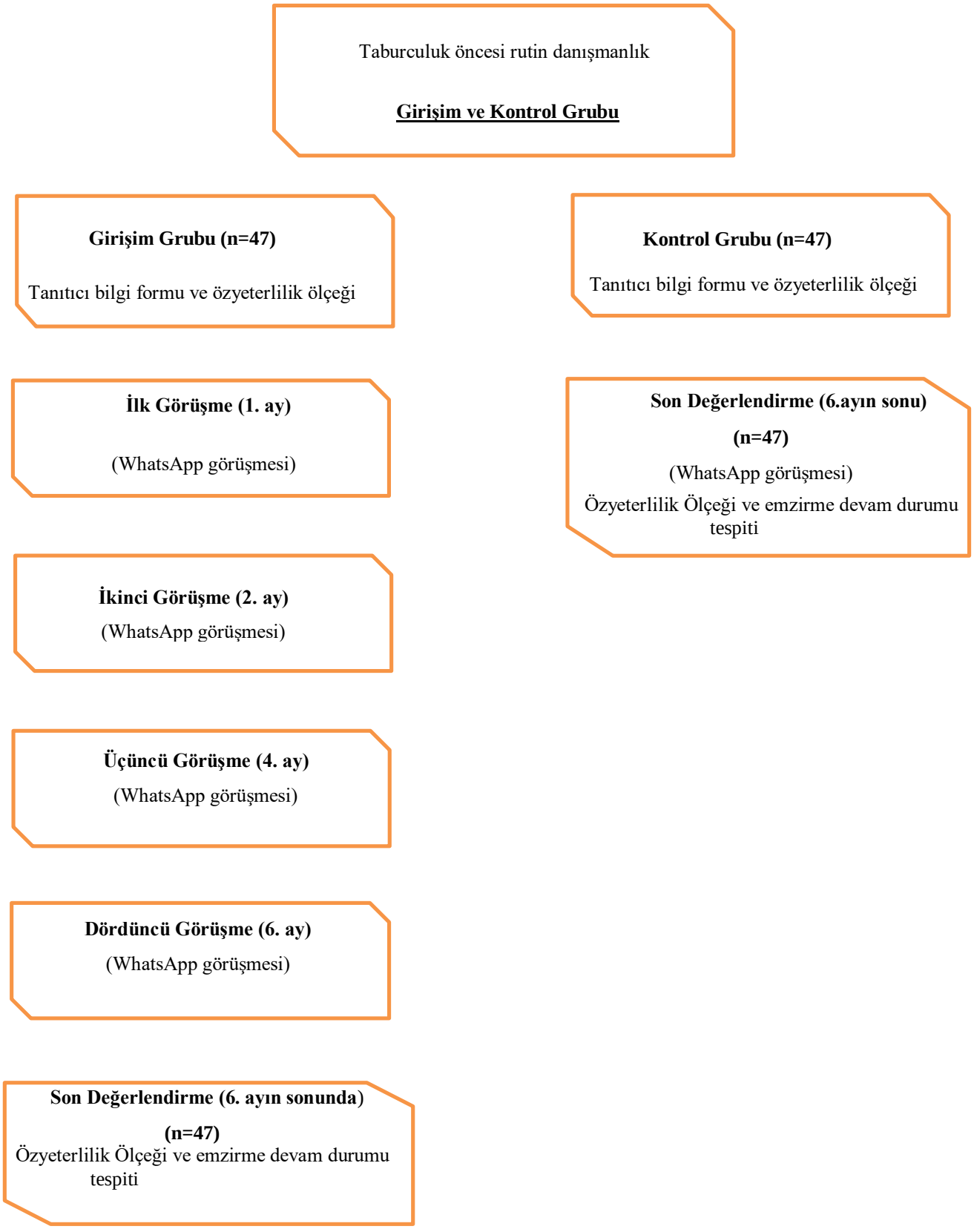
Evren ve Örneklem

Şehir hastanesinde doğum yapan ve doğum sonu bakımı klinikte sağlanan tüm primipar kadınlar çalışmanın evrenini oluşturmuştur. Dahil edilme kriterlerine uyan tüm katılımcılar çalışmanın amacı hakkında bilgilendirilmiş ve yazılı bilgilendirilmiş onamları alınmıştır. CONSORT 2010 kılavuzuna göre yürütülen çalışmada randomizasyon bir site tarafından gerçekleştirilmiştir. (https://www.randomizer.org/).Bu çalışmanın akışı Şekil 1'de gösterilmiştir. Çalışmanın örneklem büyüklüğü %95 güven aralığında, 0,05 yanlılık düzeyinde, 0,3 etki büyüklüğü ve evreni temsil etme gücü ile 0,95 etki büyüklüğü ile 94 kişi olarak belirlenmiştir.[16] Çalışmaya girişim grubunda 47 kadın, kontrol grubunda ise 47 kadın katılmıştır.

Çalışmanın Hipotezleri

1. Online emzirme danışmanlığı, emzirmeye devam etme süresini uzatır.

2. Online emzirme danışmanlığı, emzirme öz yeterlilik düzeyini artırır.



Şekil 1. Araştırma Akış Şeması

Veri Toplama Araçları

Tanıtıcı bilgi formu içinde sosyo-demografik ve (kadınların ve eşlerinin yaşı, eğitimi, çalışma durumu, ekonomik durumu ve sosyal güvencesi vb) obstetrik (gravida, doğum şekli, haftası vb) veriler yer almaktadır. Bu çalışmada, Dennis ve Faux (1999) tarafından geliştirilen Doğum Sonrası Emzirme Öz Yeterliliği Ölçeği uygulanmıştır.[15] Ölçek, Aluş Tokat ve ark. (2010) tarafından Türkçeye uyarlanmıştır ve ölçek sahibinden gerekli izin alınmıştır.[16] Ölçek 33 maddeden oluşmakta ve kadınların emzirme konusunda kendilerini ne kadar yeterli hissettiklerini değerlendirmektedir. Beşli Likert tipindeki ölçekten alınabilecek minimum puan 14, maksimum puan ise 70'tir. Puan arttıkça emzirme öz yeterliliği de artmaktadır.[15,16]

İstatistiksel analiz

Elde edilen veriler, Statistical Package for the Social Sciences (SPSS) deneme sürümü kullanılarak değerlendirilmiştir. Analizlerde ki-kare testi, t-testi ve Mann-Whitney testi kullanılmıştır. İstatistiksel anlamlılık $p<0.05$ olarak alınmıştır.

Araştırmanın Etik Yönü

Bu çalışma Marmara Üniversitesi Sağlık Bilimleri Enstitüsü Etik Kurulu tarafından 17.01.2022 tarih ve 04 sayılı karar ile onaylanmıştır. Klinik numarası NCT05322434'tür. Araştırma sürecinde Helsinki Deklerasyonuna uyulmuştur.

Araştırmanın Kısıtlıkları

Genelleştirilebilirliği etkileyen önemli bir kısıtlama, çalışmanın primipar kadınlarla sınırlandırılmasıdır. Katılımcıların emzirme süresine ilişkin bilgileri, sosyal olarak arzu edilen yanıtlar nedeniyle yanlış olabilir ve sosyoekonomik durumdaki değişiklikler ve aile desteği gibi faktörler dikkate alınmamıştır.

BULGULAR VE TARTIŞMA

Girişim grubundaki katılımcıların yaş ortalaması 24.21±3.43 yıl, kontrol grubundaki katılımcıların yaş ortalaması ise 23.04±3.46 yıldır. Bu çalışmaya katılan kadınların sosyo-demografik özellikleri Tablo 1'de gösterilmiştir.

Tablo 1. Katılımcıların Özellikleri (n=94)

Özellikler		Girişim Grubu		Kontrol Grubu		Toplam		Analiz
		n	%	n	%	n	%	
Yaş Grubu	17-24 yaş arası	26	55,3	31	66,0	57	60,6	χ^2 =1,114
	25-32 yaş arası	21	44,7	16	34,0	37	39,4	P=0,291*
Eğitim Durumu	İlkokul	11	23,4	13	27,7	24	25,5	
	Ortaokul	18	38,3	19	40,4	37	39,4	χ^2=0,466 p=0,792*
	Üniversite	18	38,3	15	31,9	33	35,1	
Çalışma Durumu	Çalışıyor	22	46,8	13	27,7	35	37,2	χ^2=3,687
	Çalışmıyor	25	53,2	34	72,3	59	62,8	p=0,055*

Tablo 1. Katılımcıların Özellikleri (n=94) (Devamı)

Evlenme Yaşı	18≤	4	8,5	10	21,3	14	14,9	χ^2=3,021
	19 ≥	43	91,5	37	78,7	80	85,1	p=0,082*
Aile Tipi	Çekirdek aile	42	89,4	37	78,7	79	84,0	χ^2=1,983
	Geniş aile	5	10,6	10	21,3	15	16,0	p=0,091*
Kronik Hastalık	Evet	5	10,6	1	2,1	6	6,4	χ^2=2,848
	Hayır	42	89,4	46	97,9	88	93,6	p=0,091*
Sürekli İlaç Kullanımı	Evet	5	10,6	1	2,1	6	6,4	χ^2=2,848
	Hayır	42	89,4	46	97,9	66	93,6	p=0,091*
Gebelik Sayısı	Primigravida	41	87,2	44	93,6	85	90,4	χ^2=1,106
	Multigravida	5	12,8	3	6,4	9	9,6	p=0,293*
Düşük Sayısı	Düşük yok	41	87,2	44	93,6	85	90,4	χ^2=1,106
	1-2 düşük	5	12,8	3	6,4	9	9,6	p=0,293*
Doğum Şekli	Vajinal doğum	30	63,8	25	53,2	55	58,5	χ^2=1,096
	Sezaryen doğum	17	36,2	22	46,8	39	41,5	p=0,295*
Gebeliğin Planlı Olma Durumu	Evet	43	91,5	43	91,5	86	91,5	χ^2=0,000
	Hayır	4	8,5	4	8,5	8	8,5	p=1,000*

Bulgularda, başlangıçta tüm grupların demografik özellikler açısından homojen olduğu saptanmıştır (p>0.05) (Tablo 1). Hastaneden taburcu olmadan önce girişim ve kontrol grupları arasında emzirme öz yeterliliği açısından istatistiksel olarak anlamlı bir fark bulunmamıştır (p>0.05).

Tablo 2. Katılımcıların Emzirme Öz Yeterlilik Puanları (n=94)

Zaman	Girişim Grubu	Kontrol Grubu	Analiz
	Ort±ss	Ort±ss	
Taburcu olmadan önce	23,21±5,42	22,87±4,59	t=25,41 p=0,57
6. ay tamamlanınca	64,34±14,55	55,02±23,68	**t=2,298 p=0,024**
Analiz	**t=-6,821**	**t=-9,439**	
	P=0,000	**p=0,000**	

Altıncı ay tamamlandığında sosyodemografik özellikler ile emzirme öz yeterlilik ölçeği puanları arasında istatistiksel olarak anlamlı bir ilişki bulunmamıştır (p>0.05). Ancak, girişim grubunda öz yeterlilik ölçeği puanlarındaki artış kontrol grubuna göre anlamlı derecede yüksektir (Tablo 2, p<0.05). Ayrıca, altıncı ayın sonunda kontrol grubunda da öz yeterlilik puanında bir artış olmuştur (p<0.05).

Tablo 3. Katılımcıların İlk Altı Ay Anne Sütü Verme ve Ek Gıdaya Başlama Zamanı (n=94)

Emzirme	Girişim Grubu		Kontrol Grubu		Toplam		Analiz
	n	%	n	%	n	%	
Sadece anne sütü verme (ilk 6 ay)							
Evet	45	95,7	37	78,7	82	87,2	**X^2=6,114**
Hayır	2	4,3	10	21,3	12	12,8	**p=0,013**
Ek gıdaya başlama zamanı							
4. ay	1	6,4	7	14,9	10	10,6	X^2=1,805
5. ay	1	6,4	3	6,4	6	6,4	p=0,406
6. ay	45	87,2	37	78,7	78	83,0	

Tablo 3 katılımcıların emzirme durumunu ve tamamlayıcı beslenmeye başlama aylarını göstermektedir. Girişim grubu ek gıdaya kontrol grubundan daha geç başlamıştır (p<0.05). Hem girişim hem de kontrol grubunda (n=12) katılımcılar yeterli anne sütü olmadığı için ek gıdaya başlamıştır. Online danışmanlık alan katılımcılar, online danışmanlıktan yüksek düzeyde memnuniyet bildirmiştir.

Bu çalışmanın amacı, online danışmanlığın primipar kadınlar arasında emzirme öz yeterliliği ve emzirmeye devamlılık üzerindeki etkisini araştırmaktır. Bu çalışmanın sonuçları, online danışmanlığın emzirme öz yeterliliği üzerindeki etkileri hakkında değerli bilgiler sağlamaktadır. Online danışmanlık alan girişim grubu, kontrol grubuna kıyasla emzirme öz yeterliliğinde önemli bir artış göstermiştir. Bu, emzirme sonuçlarını iyileştirmek için danışmanlık girişimlerinin faydalarını vurgulayan önceki araştırma bulgularıyla tutarlıdır.[17-18] Girişim grubunda gözlemlenen olumlu etki, online danışmanlığın annelerin güvenini ve emzirme becerisini artırmak için etkili bir araç olabileceğini düşündürmektedir.

Danışmanlık almayan kontrol grubu ise emzirme öz yeterliliğinde beklenmedik bir artış göstermiştir. Bu sonuç, anneler emzirme becerileri konusunda güven kazandıkça emzirme öz yeterliliğinin zaman içinde doğal olarak gelişmesine bağlanabilir.[19] Emzirme öğrenilen bir beceridir ve anneler daha rahat

hale geldikçe ve emzirmenin çeşitli zorluklarıyla daha iyi başa çıkabildikçe genellikle pratikle gelişmektedir. Kontrol grubunda öz yeterlilikteki beklenmedik artış, öz yeterliliğin yalnızca danışmanlık girişimlerine bağlı olmayabileceğini düşündürmektedir.

Kontrol grubundaki öz yeterlilik artışının olası bir açıklaması, geçen zaman ve emzirirken daha rahat ve özgüvenli hissetmenin doğal süreci olabileceğidir. Araştırmalar, kadınlar daha fazla deneyim kazandıkça ve emzirme sürecine daha aşina hale geldikçe emzirme öz yeterliliğinin artma eğiliminde olduğunu göstermiştir.[15] Bu çalışmada da, kontrol grubu emzirme yolculuğunda buna benzer bir ilerleme kaydetmiş olabilir. Ayrıca, bireylerin gözlemlendiklerinde davranışlarını değiştirdikleri bir fenomen olan Hawthorne etkisi de kontrol grubunun öz yeterlilik puanlarını etkilemiş olabileceği tahmin edilmektedir.[20] Emzirme odaklı ve izlenen bir çalışmaya katılım, katılımcıların emzirme uygulamalarına ilişkin farkındalıklarını artırarak öz yeterliliklerinin gelişmesine katkı sağlayabilmektedir.

Bir başka husus da kontrol grubunun emzirme konusunda ek destek veya bilgi kaynakları aramış olabileceğidir. Bu kadınların sağlık hizmeti sağlayıcılarıyla görüşmüş, destek gruplarına katılmış veya bağımsız olarak online kaynaklara erişmiş olması muhtemeldir. Önceki araştırmalar, çeşitli kaynaklardan bilgi ve destek aramanın emzirme öz yeterliliğini olumlu yönde etkilediğini göstermiştir.[21] Bu nedenle, kontrol grubundaki öz yeterlilikteki iyileşmenin, emzirme deneyimlerini iyileştirmeye yönelik proaktif çabalardan kaynaklandığı düşünülebilir. İstatistiksel olarak anlamlı olmamakla birlikte, kontrol grubunun (%79) tamamlayıcı beslenmeye ulusal ortalamadan daha geç geçme eğiliminde olduğunu belirtmek gerekir. Bu bulgu, bu artışa katkıda bulunmuş olabilecek faktörleri belirlemek için daha fazla araştırma yapılmasını gerektirmektedir. Emzirme danışmanlığı, yaşamın ilk altı ayında sadece anne sütü ile beslenme oranlarını artırmak için etkili bir girişimdir. Çalışma, girişim grubundaki kadınların %96'sının bebeklerini yalnızca ilk altı ay boyunca emzirdiğini ortaya koymuştur. Ayrıca bu bulgu, yüzde 41 olan ulusal ortalamaya kıyasla önemli ölçüde daha yüksek bir orana işaret etmektedir.[14] Çeşitli çalışmalar emzirme danışmanlığının emzirme oranları üzerinde olumlu bir etkisi olduğunu göstermiştir.[9,10] Bir Cochrane incelemesi danışmanlığın altı aya kadar tek başına emzirme olasılığını artırdığını bulmuştur.[22] Başka bir meta-analiz bu bulguları doğrulamış ve doğumdan üç ila altı ay sonra tek başına emzirmede önemli bir artış olduğunu göstermiştir.[23] Bu metaanalizde doğum öncesi laktasyon danışmanlığı alan annelerin, dört-altı haftalıkken emzirme sonuçlarında önemli bir iyileşme gösterdiği, doğum öncesi ve doğum sonrası her iki dönemde de laktasyon danışmanlığı alan annelerin ise altı ay boyunca bebeklerini sadece anne sütü ile besleme olasılıklarının daha yüksek olduğu daha ayrıntılı analizler tarafından ortaya konmuştur.[23] Bu çalışmalar, emzirme danışmanlığının faydalı olabileceğini, ancak bireysel koşulların ve destek sistemlerinin de önemli bir rol oynadığını göstermektedir.[24]

Ancak emzirme danışmanlığı, emzirmenin ilk altı ay boyunca devam etmesini her zaman sağlayamamaktadır. Güney Afrika kırsalında yapılan bir çalışmada, HIV ile enfekte annelere bireysel danışmanlık verilmesinin emzirmeye devam etmeyi garanti etmediği, çünkü çeşitli endişelerin ve sosyal baskıların kararlarını etkilediği bulunmuştur.[11] Benzer şekilde, bir meta-analiz, akran danışmanlığı girişimlerinin emzirmeye başlamayı teşvik etmede etkili olduğunu ancak altı aya kadar sadece anne sütü ile beslenme süresi üzerinde sınırlı bir etkisi olduğunu ortaya koymuştur. Sistematik bir inceleme, sağlık çalışanları tarafından verilen danışmanlığın emzirmeye başlama oranlarını artırdığını, ancak emzirmenin sürdürülmesinde etkili olmadığını ortaya koymuştur. Bir meta-analiz, akran desteğini ve emzirmenin önündeki engelleri incelemiş ve emzirme desteğinin sonuçları olumlu yönde etkileyebileceği sonucuna varmıştır.[9,21,22] Bu bulgular, emzirmeye

devam etmenin karmaşıklığının altını çizmekte ve bireysel zorlukları ve toplumsal etkileri ele almak için ek stratejilerin, sürekli desteğin ve özel girişimlerin önemini vurgulamaktadır.

Anneler, destek eksikliği, emzirme zorlukları, işe veya okula dönüş ve kişisel veya kültürel inançlar gibi çeşitli nedenlerle emzirmeyi bırakabilir. Annelerin daha uzun süre emzirmelerine yardımcı olmak için doğru bilgi sağlamak, destek sunmak ve zorlukları ele almak gibi bazı şeyler yapılabilir.

Bu çalışmada ve Nijerya[25], Türkiye[26] ve Belçika'da[27], anne sütünün yetersiz olduğunu düşündükleri için tamamlayıcı gıdalara erken başlamışlardır. Bu nedenle, online emzirme danışmanlığı verilirken annelerin kültürel inanç ve algılarının dikkate alınması başarıyı artırabilir.

SONUÇ VE ÖNERİLER

Mevcut Türk sağlık sisteminde doğum sonrası emzirme danışmanlığı, doğumun gerçekleştiği hastanede standart taburculuk eğitiminin bir parçası olarak bir kez verilmektedir. Emzirmeyle ilgili sorun yaşanması durumunda aileler uygun çözümler bulmak için aile sağlığı merkezlerine başvurabilmektedir. Ancak, emzirmeye başlama oranlarının nispeten yüksek olmasına rağmen, emzirmeye devam etme oranları oldukça düşüktür. Bu çalışmada, örneklemimizin kendine has özelliklerine atfettiğimiz önemli ölçüde yüksek emzirmeye devam etme oranları gözlemlenmiştir. Bununla birlikte, doğum sonrası dönemde tüm kadınlara aktif olarak eşlik etmek ve destek olmak önemlidir. Online danışmanlık, emzirmeyi etkili bir şekilde destekleyebilir ve kadınları ek gıdalara çok erken başlamamaları konusunda eğitebilir.

KAYNAKLAR

1. WHO. (2017). "Guideline: protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services". https://iris.who.int/bitstream/handle/10665/259386/9789241550086-eng.pdf.
2. Del Ciampo, L. and Del Ciampo, I. (2018). "Breastfeeding and the Benefits of Lactation for Women's Health". *Revista Brasileira de Ginecologia e Obstetrícia*, *40*, 354-359. https://doi.org/10.1055/s-0038-1657766.
3. Lyons, K.E, Ryan, C.A, Dempsey, E.M, Ross, R.P. and Stanton, C. (2020). "Breast milk, a source of beneficial microbes and associated benefits for infant health". Nutrients, 12(4),1039. https://doi.org/10.3390/nu12041039.
4. Ekström, A, Widström, A.M, Nissen, E. and Matthiesen, A.S. (2018). "Breastfeeding attitudes of consultant nurses and midwives in Sweden three years after accreditation of the Baby-Friendly Hospital Initiative accreditation". International Breastfeeding Journal, 13 (1), 28. doi: 10.1186/s13006-018-0178-7.
5. Çaylan, N. ve Yalçın, S.S. (2020). "Türkiye'de ve Dünya'da emzirmenin durumu: Emzirmenin desteklenmesi için öneriler". *Çocuk beslenmesi*, *1*, 4-11.
6. UNICEF. (2023). "Global breastfeeding scorecard 2023". Erişim adresi: https://www.unicef.org/documents/global-breastfeeding-scorecard-2023 (Erişim tarihi: 18/04/2024).
7. WHO. (2013). "Postnatal care of the mother and newborn". Erişim adresi: https://iris.who.int/bitstream/handle/10665/97603/9789241506649_eng.pdf?sequence=1 (Erişim tarihi: 18/04/2024).
8. Tongun, B.T, Deveci, S.E. and Senturan, L. (2020). "The influence of breastfeeding self-efficacy on breastfeeding outcomes in a sample of Turkish women: A prospective cohort study". International Journal of Nursing Practice, 26 (2), e12805. doi: 10.1111/ijn.12805.
9. Fleming, P.J. and Geddes, D. (2021). "Breastfeeding challenges and supports for primiparous women: A systematic review". Breastfeeding Medicine, 16 (1), 33-41. doi:10.1111/bmim.12866.
10. Johnson, S, Lagan, B.M, Reast, J. and Scott, K. (2021). "Evaluating a breastfeeding support app in mothers of preterm infants: Randomized controlled trial". JMIR mHealth and uHealth, 9(3), e23699. doi: 10.2196/23699.
11. Flottorp, S.A, Jamtvedt, G, Haavardsholm, I. and Oxman, A.D. (2016). "Using decision aids in primary care: An overview of systematic reviews". Implementation Science, 11 (1), 1-15. doi: 10.1186/s13012-016-0506-5.
12. Brown, A, Raynor, P. and Lee, M. (2019). "Healthcare professionals and mothers' perceptions of factors that influence decisions to breastfeed or formula feed infants: A comparative study". Journal of Clinical Nursing, 28 (5-6), 929-938. doi: 10.1111/jocn.14656.
13. Türkiye İstatistik Kurumu. (2021). https://data.tuik.gov.tr/AddressBasedPopulationRegistrationSystem/
14. Hacettepe Üniversitesi Nüfus Etütleri Enstitüsü. (2019). 2018 Türkiye Nüfus ve Sağlık Araştırması. Hacettepe Üniversitesi Nüfus Etütleri Enstitüsü, T.C. Cumhurbaşkanlığı Strateji ve Bütçe Başkanlığı ve TÜBİTAK, Ankara, Türkiye.
15. Dennis, C.L, and Faux, S. (1999). "Development and psychometric testing of the Breastfeeding Self-Efficacy Scale". *Research in nursing & health*, *22* (5), 399-409. doi:10.1002/ (SICI)1098-240X (199910)22:5.
16. Tokat, M.A, Okumuş, H. and Dennis, C.L. (2010). "Translation and psychometric assessment of the Breast-feeding Self-Efficacy Scale Short Form among pregnant and postnatal women in Turkey". *Midwifery*, *26* (1), 101-108. doi: 10.1016/j.midw.2008.04.002.
17. Finnegan D, Gillen P. and Holt C. (2018). "Effectiveness of a breastfeeding self-efficacy intervention: do hospital practices make a difference?". Matern Child Nutr. 2018;14 (2):e12525.
18. Hoddinott P, Craig L.C, Britten J, and Mclnnes, R.M. (2012). "A serial qualitative interview study of infant feeding experiences: idealism meets realism". 2012;2(2):e000504. doi: 10.1136/bmjopen-2012-000504corr1.
19. Tuthill, E.L, McGrath, J.M, Graber, M, Cusson, R.M. and Young, S.L. (2016). "Breastfeeding self-efficacy: A critical review of available instruments". Journal of Human Lactation,32(1),35-45. doi:10.1177/0890334415619439.
20. McCambridge, J, Witton, J. and Elbourne, D.R. (2014). "A systematic review of the Hawthorne effect: New concepts are needed to study research participation effects". Journal of Clinical Epidemiology, 67 (3), 267-277. https://doi.org/10.1016/j.jclinepi.2013.08.015.
21. Miskulin, R, Jerković, I. and Medić, N. (2021). "Factors associated with breastfeeding self-efficacy: A systematic review". Journal of Human Lactation, 37 (4), 653-667.
22. Whitford, H.M, Wallis, S.K, Dowswell, T, West, H.M. and Renfrew, M.J. (2017). "Breastfeeding education and support for women with twins or higher order multiples". *Cochrane Database of Systematic Reviews*, (2). DOI: 10.1002/14651858.CD012003.
23. Imdad, A., Yakoob, M.Y. and Bhutta, Z.A. (2011). "Effect of breastfeeding promotion interventions on breastfeeding rates, with special focus on developing countries". *BMC public health*, *11*, 1-8.
24. Flaherman, V.J. and Lee, H.C. (2013). ""Breastfeeding" by feeding expressed mother's milk". *Pediatric Clinics*, *60*(1), 227-246.
25. Udoh, E.E. and Amodu, O.K. (2016). "Complementary feeding practices among mothers and nutritional status of infants in Akpabuyo Area, Cross River State Nigeria". *SpringerPlus*, *5*, 1-19.
26. Yılmaz, T, Dinç, H, Günaydın, S. and Kaçar, N. (2021). "Breastfeeding in Turkey: a systematic review". *Clinical and Experimental Health Sciences*, *11* (3), 604-616.
27. Robert, E, Coppieters, Y, Swennen, B. and Dramaix, M. (2014). "The reasons for early weaning, perceived insufficient breast milk, and maternal dissatisfaction: Comparative studies in two Belgian regions". *International Scholarly Research Notices*.

GÜSBD 2024; 13(3): 1252 - 1262 **Gümüşhane Üniversitesi Sağlık Bilimleri Dergisi** **Araştırma Makalesi**
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Onkoloji Kliniğinde Yatarak Tedavi Alan Hastaların Ağrıyla Baş Etme Yöntemlerinin Belirlenmesi

Determination of Pain Coping Methods of Patients Receiving Inpatient Treatment in the Oncology Clinic

Yadigar ORDU[1]

ÖZ

Bu araştırmanın amacı, onkoloji kliniğinde yatarak tedavi alan hastaların ağrıyla baş etme yöntemlerini incelemektir.

Tanımlayıcı ve kesitsel tipte olan bu araştırmanın örneklemini, Temmuz-Eylül 2023 tarihleri arasında bir tıp fakültesinin onkoloji kliniğinde yatan 18-65 yaş arası 180 hasta oluşturmuştur. Verilerin toplanmasında; "Hasta Tanılama Formu", "Ağrı Bilgi Formu" ve "Ağrıyla Başetme Envanteri" kullanılmıştır. Normal dağılmayan verilerin analizinde Mann Whitney U, Kruskal Wallis testleri kullanılmış ve $p<0,05$ anlamlı kabul edilmiştir.

Araştırmada, hastaların %54,4'ünün kadın, %88,9'unun evli ve yaş ortalamalarının 51,85±10,85 olduğu bulunmuştur. Hastaların; %78,3'ünün bölgesel ağrı yaşadığı, %42,2'sinin ağrı şiddetinin 3-6 puan arası olduğu, %48,9'unun ağrısının sabit ve %81,7'sinin sürekli ağrı yaşadığı bulunmuştur. Hastaların, aktif baş etme stratejileri puan ortancasının 2,75 (2,13), pasif baş etme stratejileri puan ortancasına göre 2,46 (2,11) daha yüksek olduğu belirlenmiştir. Hastaların, aktif ve pasif baş etme stratejileri puan ortancaları ile cinsiyet, eğitim düzeyi, çalışma durumu, mesleği, ağrının şiddeti, niteliği, ritmi, ağrıyı artıran ve azaltan faktörler, ağrı için ilaç tedavisi kullanma, ağrının sıklığı ve ağrının rahatsız etme derecesi arasında istatistiksel anlamlılık bulunmuştur ($p<0,05$).

Onkoloji hastalarının ağrıyla aktif baş etme stratejilerini etkileyen faktörlerin göz önüne alınması, hemşirelerin, diğer sağlık profesyonellerinin ve bakım vericilerin bu konuda gerekli desteği sağlaması önerilmektedir.

Anahtar Kelimeler: Ağrı, Aktif ve Pasif Baş Etme, Hemşire, Onkoloji Hastaları

ABSTRACT

The purpose of this study is to examine the pain coping methods of patients receiving inpatient treatment in an oncology clinic.

The sample of this descriptive and cross-sectional study consisted of 180 patients aged 18-65 who were hospitalized in the oncology clinic of a medical faculty between July and September 2023. In collecting data; "Patient Diagnosis Form", "Pain Information Form" and "Pain Coping Inventory" were used. Mann Whitney U and Kruskal Wallis tests were used to analyze non-normally distributed data and $p<0.05$ was considered significant.

In the study, it was found that 54.4% of the patients were women, 88.9% were married and their average age was 51.85±10.85. Patients; It was found that 78.3% experienced regional pain, 42.2% had pain intensity between 3-6 points, 48.9% had constant pain, and 81.7% experienced continuous pain. It was determined that the patients' median score for active coping strategies was 2.75 (2.13) and 2.46 (2.11) higher than the median score for passive coping strategies. Statistical significance was found between the patients' active and passive coping strategies score averages and gender, educational level, work status, occupation, severity of pain, nature, rhythm, factors that increase and decelerate pain, use of medication for pain, frequency of pain and degree of discomfort of pain ($p<0.05$).

It is recommended that factors affecting oncology patients' active coping strategies with pain be taken into consideration and that nurses, other health professionals and caregivers provide the necessary support in this regard.

Keywords: Pain, Active and Passive Coping, Nurse, Oncology Patients

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[1]Dr. Öğr. Üyesi, Yadigar ORDU, Hemşirelik Esasları Anabilim Dalı, Necmettin Erbakan Üniversitesi Hemşirelik Fakültesi ve Hemşirelik Bölümü, yadigar_usta_ordu@hotmail.com, ORCID: 0000-0002-4060-0487

İletişim / Corresponding Author: Yadigar ORDU
e-posta/e-mail: yadigar_usta_ordu@hotmail.com

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GİRİŞ

Dünya'da ve ülkemizde kanser önemli bir sağlık sorunu olup ölüm nedenleri arasında yer almaktadır. Kanser hastalarının ise büyük bir çoğunluğu ağrı şikayetinden yakınmaktadır. Tanısı konulan kanser hastalarında ağrı oranı 1/4, tedavisi devam edenlerde 1/3 ve ileri evre kanser hastalarında bu oran 3/4'dür.[1,2] Ağrı, birçok farklı şekilde tanımlanmaktadır. Uluslararası Ağrı Araştırma Derneği (IASP) tarafından ağrı, vücudun belirli bir bölgesinden kaynaklanan, doku hasarı kaynaklı ya da olmaksızın, bireyin geçmiş deneyimlerinden etkilenen, hoş olmayan biyokimyasal ya da duygusal durum veya davranış olarak tanımlanmaktadır.[3] Ağrının algılanması fiziksel, duygusal ve sosyal faktörlere bağlıdır. Kişinin, geçmişteki ağrı deneyimi olumlu ise ağrı hissi daha az, olumsuz ise daha fazla algılanabilmektedir.[4] Palyatif bakım şartlarında ise ağrıya yönelik hastanın ne tanımladığı daha da önemli olmaktadır.[5]

Kanser hastalarında ağrı; kanser yayılımı, girişimsel işlemler, kemoterapi sonrası gelişebilecek yan etkiler ya da kanser dışı nedenlere bağlı gelişebilmektedir. Kanser ağrılarında, öncelikle ağrının şiddeti değerlendirilmekte ve ağrıyla baş etmede farmakolojik ya da nonfarmakolojik yöntemler kullanılmaktadır.[6] Farmakolojik tedaviler arasında, opoidler, nonopoidler ve adjuvan analzejikler sıklıkla kullanılmaktadır.[6,7] Analjezikler, tedavide hızlı etki göstermeleri ve kolay uygulanabilmeleri nedeniyle ağrının giderilmesinde kullanılan en sık yöntemdir. Ancak analjeziklerin bilinçsiz bir şekilde kullanılması bazı fizyolojik fonksiyonları olumsuz etkilemesi, ülke ve birey ekonomisine yük getirmesi gibi olumsuz yönleri ortaya çıkarabilmektedir. Ayrıca, narkotik analjeziklerin sıklıkla kullanılması her defasında dozun artırılmasına neden olarak tolerans gelişmesi gibi olumsuz bir duruma da neden olmaktadır.[5,8]

Ağrının kontrol edilmesinde bir diğer yöntem ise nonfarmakolojik yöntemlerdir. Nonfarmakolojik yöntemler analjezik kullanımını azaltarak hastanın ağrısını olabildiği kadar kontrol edebilmesini sağlamakta ve yaşam kalitesinin yükseltilmesini sağlamaktadır.[5] Müzik dinleme, dikkati başka yöne çekme, ziyaretçi desteği, masaj, sıcak-soğuk uygulama, hayal kurma, gevşeme egzersizleri, akupunktur, psikoterapi gibi nonfarmakolojik yöntemlerin hasta tarafından kolay bir şekilde uygulanabilmesi ve bireye yük getirmemesi gibi olumlu yönleri bulunmaktadır.[5,9] Ağrı yönetiminde kanser hastalarına farmakolojik yöntemlere kıyasla nonfarmakolojik yöntemleri tercih etmesi önerilmektedir. Ancak tedavi sürecinde ya da ileri evre kanser hastalarında nonfarmakolojik yöntemler ile ağrıya müdahale etmek oldukça güç olmaktadır.[9]

Onkoloji hastalarının, ağrıyla baş etmede kullandıkları yöntemlerin belirlenmesi oldukça önemlidir. Hastaların, ağrıyla etkin baş etmesi, bakım verenlerin, hemşirelerin ve diğer sağlık profesyonellerinin ise hastayı desteklemesi beklenilmektedir. Literatürde yapılan araştırmalar incelendiğinde; kanser hastalarında bazı sosyodemografik özelliklerin ağrıyla baş etme üzerine etkisinin incelendiği[17,22] ve kanser hastalarının ağrıyla baş etme stratejilerinin belirlendiği[17] çalışmalar bulunmaktadır. Ancak, bu çalışmada olduğu gibi onkoloji hastalarının tanıtıcı özelliklerinin ve ağrıya ilişkin kapsamlı bilgilerinin ağrıyla baş etmelerine etkisini inceleyen bir araştırmaya rastlanılmamıştır.

Bu açıdan çalışma, kanser hastalarının ağrıyla baş etmelerini belirlemek ve daha sağlıklı yöntemler kullanılmasını teşvik etmek amacıyla önemli veriler sağlayacaktır. Bu noktada çalışmanın, literatürde var olan bilgilere katkıda bulunacağı ve hem formal hem de informal bakım verenlere destek sağlayacağı düşünülmektedir.

Amaç

Bu araştırma, onkoloji kliniğinde yatarak tedavi alan hastaların ağrıyla baş etme yöntemlerini belirlemek amacıyla yapıldı.

Araştırma Soruları

1. Hastaların tanıtıcı özelliklerine göre ağrıyla baş etme yöntemleri arasında fark var mıdır?
2. Hastaların ağrı özelliklerine ilişkin bilgileri ile ağrıyla baş etme yöntemleri arasında fark var mıdır?
3. Hastaların ağrıyla baş etme yöntemleri nasıldır?

MATERYAL VE METOT

Yöntem

Araştırmanın Tipi

Araştırma, tanımlayıcı ve kesitsel tipte yapılmıştır.

Yöntem

Bu araştırma, Temmuz-Eylül 2023 tarihleri arasında, Konya ilindeki bir tıp fakültesinin onkoloji kliniğinde yatan hastalar ile gerçekleştirilmiştir. Araştırmanın evrenini, Temmuz-Eylül 2023 tarihleri arasında Konya ilindeki bir tıp fakültesinin onkoloji kliniğinde yatan hastalar oluşturmuştur. Evren içerisinden araştırmaya dahil edilme kriterlerine sahip ve çalışmaya katılmayı kabul eden hastalar örneklemi oluşturmuştur. Araştırmaya dahil edilme kriterleri: Hastaların 18-65 yaş aralığında olması, onkoloji kliniğinde yatarak tedavi alması, Görsel Analog Skalaya (VAS) göre ağrı puanının sıfırın üzerinde olması ve araştırmaya katılmayı kabul etmesidir. Araştırmadan dışlanma kriterleri: Görsel Analog Skalaya (VAS) göre ağrı puanının sıfır olması, psikiyatrik hastalığının bulunması, iletişim kurmaya engel duyusal ya da algılama bozukluğunun olması, veri toplama araçlarını tam olarak doldurmaması ve araştırmaya katılmak istememesidir.

Araştırmanın yapıldığı onkoloji kliniğinden edinilen veriye göre tekrarlı yatışların çıkarılması sonucunda kliniğine bir yılda 310 hastanın yatış yaptığı belirlenmiştir. Araştırmanın örneklemi, evreni bilinen örneklem büyüklüğü hesaplama formülü ile 172 olarak bulunmuştur.[10] Hesaplamada, N=310, %95 güven düzeyinde t=1,96, p ve q değerleri 0,5, standart sapma değeri olan d=0,05 olarak alınmıştır. Bu kapsamda örneklem büyüklüğü; $n= Nxt^2xpxq / d^2(N-1)+t^2x(pxq)$ formülüyle belirlenmiştir. Veri kaybı olabileceği göz önüne alınarak araştırma 180 hasta ile tamamlanmıştır.

Veri Toplama Araçları

Veriler; "Hasta Tanılama Formu", "Ağrı Bilgi Formu" ve "Ağrıyla Başetme Envanteri" kullanılarak toplanmıştır.

Hasta Tanılama Formu: Araştırmacı tarafından literatür taranarak oluşturulan bu form, hastaların tanıtıcı özelliklerini içeren 9 sorudan (yaş, cinsiyet, medeni durum, eğitim düzeyi, çalışma durumu, mesleği, kanser tanısı, hastalık süresi ve kemoterapi alma durumu) oluşmaktadır.[1,5,13,17]

Ağrı Bilgi Formu: Araştırmacı tarafından literatür doğrultusunda hazırlanan bu form hastaların ağrısına yönelik bilgileri içeren 11 sorudan (ağrının yayılımı, ağrının şiddeti, ağrının niteliği, ağrının ritmi, ağrıyı ne kadar süredir yaşadığı, ağrıyı artıran faktörler, ağrıyı azaltan faktörler, ağrı için ilaç tedavisi kullanma, ilaç dışında ağrıyı gidermede kullanılan herhangi bir yöntem, ne sıklıkta ağrı yaşadığı ve yaşanan ağrının kişiyi rahatsız etme derecesi) oluşmaktadır. Ağrının şiddeti Görsel Analog Skala (VAS) ile ölçülmüştür.[2,11,12]

Ağrıyla Başetme Envanteri (ABE): Orijinal adı Pain Coping Inventory olan ölçek, kronik ağrı hastalarının ağrıyla baş etmede kullandıkları davranışsal ve bilişsel stratejileri tespit etmek amacıyla Kraaimaat ve Evers (2003) tarafından geliştirilmiştir.[13] Ölçek, onkoloji hastalarının ağrıyla baş etmelerini belirlemek amacıyla kullanılabilir. Ölçeğin, Türkçe'ye uyarlaması romatizmal hastalıklar, fibromiyalji, bel ağrısı ve spesifik olmayan ağrı kategorilerini içeren 279 kronik ağrı hastasıyla yapılmıştır.[14] Ölçek, "uzaklaşma", "ağrıyı dönüştürme", "rahatlatıcı düşünme", "endişe", "dinlenme" ve "geri çekilme" olmak üzere altı alt

boyuttan ve 22 maddeden oluşmaktadır. Uzaklaşma (12, 13, 14), ağrıyı dönüştürme (7, 8, 10, 19) ve rahatlatıcı düşünme (11) alt stratejileri aktif baş etme; endişe (9, 15, 16, 17, 18, 20), dinlenme (2, 3, 4, 5) ve geri çekilme (1, 6, 21, 22) alt stratejileri ise pasif baş etmeyi oluşturmaktadır. Alt boyut puanları, madde sayısına bölünerek hesaplanmaktadır. Ölçek, 1 (neredeyse hiç), 2 (bazen), 3 (sık sık) ve 4 (çok sık) olmak üzere 4'lü likert tipindedir. Ölçekten alınan yüksek puan ilgili alt ölçeklerdeki stratejiyi daha fazla kullanmak anlamına gelmektedir. Alt faktörlerin Cronbach Alpha iç tutarlılık katsayıları "uzaklaşma" için 0,76, "ağrıyı dönüştürme" için 0,77, "rahatlatıcı düşünme" için 0,53, "endişe" için 0,69, "dinlenme" için 0,73 ve "geri çekilme" için 0,61 olarak hesaplanmıştır. Bu çalışmada, ABE Cronbach Alpha iç tutarlılık katsayısı tüm ölçek için 0,98; aktif baş etme için 0,86 ve pasif baş etme için 0,92 olarak hesaplanmıştır.

Verilerin Toplanması

Veriler, araştırmacı tarafından Temmuz-Eylül 2023 tarihleri arasında Konya ilindeki bir tıp fakültesinin onkoloji kliniğinde yatan hastalarla yüz yüze görüşme yöntemi kullanılarak hasta odalarında toplanmıştır. Veri toplama araçlarının uygulanması yaklaşık 15-20 dakika sürmüştür.

Verilerin Değerlendirilmesi

Verilerin analizi, SPSS 22.0 software (SPSS 22.0 sürüm IBM, New York, ABD) paket programı kullanılarak yapılmıştır. Tanımlayıcı veriler; sayı (n), yüzde (%), ortalama, standart sapma, ortanca, çeyrekler açıklığı (IQR), minimum ve maksimum ile gösterilmiştir. Verilerin normal dağılıma uygunluğu Kolmogorov-Smirnov testi ile analiz edilmiştir. Normal dağılmayan verilerin analizinde Mann Whitney U ve Kruskal Wallis testleri kullanılmıştır. Veriler %95 güven aralığında $p<0,05$ anlamlılık düzeyinde değerlendirilmiştir.

Araştırmanın Etik Yönü

Araştırmaya başlamadan önce Çankırı Karatekin Üniversitesi Etik Kurulu'ndan etik kurul izni (20.06.2023/8), çalışmanın yapıldığı hastaneden kurum izni alınmıştır (04.07.2023/E-14567952-900-363139).

Veri toplama araçları uygulanmadan önce hastalara çalışma hakkında bilgi verilerek sözlü ve yazılı onamları alınmıştır. Araştırma, Helsinki Deklarasyonu prensiplerine uygun gerçekleştirilmiştir. Çalışma, STROBE kontrol listesine uygun planlanmış, uygulanmış ve raporlanmıştır.[15]

Araştırmanın Kısıtlılıkları

Araştırma, Konya'daki bir tıp fakültesinin onkoloji kliniğinde yatan hastalar ile gerçekleştirilmiştir. Bu nedenle sonuçlar evrene genellemez. Ayrıca, araştırmada kesitsel araştırma deseni kullanıldığı için nedensel ilişkiler incelenememiştir.

BULGULAR VE TARTIŞMA

Araştırmaya katılan hastaların; %54,4'ünün kadın, %45,6'sının erkek, %88,9'unun evli ve yaş ortalamalarının 51,85±10,85 yıl (min= 23, maks= 65) olduğu bulunmuştur. Hastaların %67,2'sinin ilk-orta öğretim mezunu, %75,6'sının çalışmadığı ve %44,4'nün ev hanımı olduğu belirlenmiştir. Hastaların, %22,2'sinin mide, %21,1'inin akciğer, %18,3'ünün kolon kanseri tanısının olduğu, %60'ının hastalık süresinin 0-12 ay olduğu ve %96,1'inin kemoterapi aldığı saptanmıştır (Tablo 1).

Tablo 1. Hastaların tanıtıcı özellikleri ve ağrıyla baş etme envanteri (ABE) alt boyut puan ortancalarının tanıtıcı özelliklere göre karşılaştırılması (n=180)

Özellikler	n (%)	Ağrıyla Baş Etme Envanteri					
		Aktif Baş Etme			Pasif Baş Etme		
		Median (IQR)	Min-Maks	Test değeri	Median (IQR)	Min-Maks	Test değeri
Cinsiyet							
Kadın	98 (54,4)	2,56 (1,75)	1,00-4,00	Z= -2,520	2,71 (1,44)	1,00-4,00	Z= -2,797
Erkek	82 (45,6)	3,00 (1,50)	1,00-4,00	**p= *0,012**	2,14 (1,58)	1,00-4,00	**p= *0,005**
Medeni durum							
Evli	160 (88,9)	2,75 (2,13)	1,00-4,00	Z= -1,032	2,53 (1,57)	1,00-4,00	Z= -0,339
Bekar	20 (11,1)	2,93 (1,72)	1,37-4,00	p= 0,302	2,24 (1,06)	1,21-4,00	p= 0,734
Eğitim düzeyi							
Okur-yazar değil[a]	8 (4,4)	1,99 (1,59)	1,25-4,00		2,81 (2,22)	1,42-4,00	
İlk-orta öğretim[b]	121 (67,2)	2,62 (2,00)	1,00-4,00	KW= 8,271	2,57 (1,46)	1,00-4,00	KW= 7,946
Lise[c]	28 (15,6)	2,62 (2,00)	1,25-4,00	**p= *0,016**	2,57 (1,23)	1,00-3,85	**p= *0,019**
Üniversite[d]	23 (12,8)	3,50 (1,38)	1,37-4,00		1,78 (0,93)	1,00-3,78	
Gruplar arası farklılık		d > c, b > a			a > b, c > d		
Çalışma durumu							
Evet	44 (24,4)	3,17 (1,44)	1,00-4,00	Z= -2,106	2,07 (1,89)	1,00-3,85	Z= -2,472
Hayır	136 (75,6)	2,62 (1,88)	1,00-4,00	**p= *0,035**	2,57 (1,42)	1,00-4,00	**p= *0,013**
Mesleği							
Ev hanımı[a]	80 (44,4)	2,43 (1,63)	1,00-4,00		2,88 (1,28)	1,00-4,00	
Emekli[b]	50 (27,8)	3,00 (1,50)	1,00-4,00		2,24 (1,52)	1,00-4,00	
Esnaf[c]	19 (10,6)	2,62 (1,85)	1,00-4,00	KW= 14,504	2,35 (1,43)	1,00-3,85	KW= 20,486
İşçi[d]	16 (8,9)	3,50 (1,22)	1,12-4,00	**p= *0,006**	1,42 (1,06)	1,00-3,85	**p= *0,000**
Memur[e]	15 (8,3)	3,00 (1,38)	1,37-4,00		2,14 (1,86)	1,00-3,85	
Gruplar arası farklılık		d > b, e > a, c			a > b, c, e > d		
Kanser tanısı							
Meme	40 (22,2)	2,62 (1,84)	1,00-4,00		2,64 (1,50)	1,00-4,00	
Akciğer	38 (21,1)	3,00 (1,69)	1,00-4,00		2,14 (1,68)	1,00-3,85	
Kolon	33 (18,3)	3,00 (2,25)	1,00-4,00		2,57 (1,58)	1,00-4,00	
Mide	20 (11,1)	2,62 (2,00)	1,00-4,00		2,85 (1,75)	1,00-4,00	
Endometrium	19 (10,6)	2,75 (1,25)	1,12-4,00	KW= 4,237	2,85 (1,35)	1,00-4,00	KW= 11,462
Karaciğer	13 (7,2)	2,75 (1,61)	1,25-4,00	p= 0,835	2,14 (2,03)	1,00-3,42	p= 0,177
Pankreas	7 (3,9)	2,25 (1,88)	1,00-3,62		2,71 (1,35)	1,21-4,00	
Böbrek	5 (2,8)	3,12 (2,07)	1,25-4,00		2,07 (1,11)	1,78-3,00	
Mesane	5 (2,8)	3,00 (1,99)	1,50-4,00		2,14 (2,00)	1,00-3,78	
Hastalık süresi							
0-12 ay	108 (60,0)	2,68 (2,10)	1,00-4,00		2,42 (1,63)	1,00-4,00	
13-36 ay	42 (23,3)	2,81 (1,38)	1,00-4,00	KW= 0,776	2,42 (1,52)	1,00-4,00	KW= 2,901
37-60 ay	17 (9,4)	2,87 (2,31)	1,12-4,00	p= 0,855	2,71 (1,71)	1,00-4,00	p= 0,407
61 ay ve üzeri	13 (7,2)	2,37 (2,19)	1,25-4,00		3,07 (1,79)	1,14-4,00	

Tablo 1. (Devamı

Kemoterapi alma durumu							
Evet	173 (96,1)	2,75 (2,00)	1,00-4,00	Z= -0,412	2,50 (1,50)	1,00-4,00	Z= -0,766
Hayır	7 (3,9)	1,37 (2,50)	1,16-4,00	p= 0,680	1,42 (2,78)	1,00-4,00	p= 0,443
Yaş (yıl)	x̄±SS = 51,85 ± 10,85 (Min= 23, Max= 65)						

*Not: x̄: Ortalama; SS: Standart sapma; IQR =Çeyrekler açıklığı; Min: Minimum; Maks: Maksimum; Z = Mann-Whitney U testi; KW = Kruskal Wallis Test; *p<0,05.*

Hastaların, aktif ve pasif baş etme stratejileri puan ortancaları ile cinsiyet, eğitim düzeyi, çalışma durumu ve mesleği arasında istatistiksel olarak anlamlı farklılık bulunmuştur (p<0,05). Aktif baş etme stratejilerinde; erkeklerin, üniversite mezunlarının, çalışanların ve işçi olanların puan ortancalarının daha yüksek olduğu belirlenmiştir. Pasif baş etme stratejilerinde; kadınların, okur-yazar olmayanların, çalışmayanların ve ev hanımı olanların puan ortancalarının daha yüksek olduğu bulunmuştur (Tablo 1).

Araştırmaya katılan hastaların; %78,3'ünün bölgesel ağrı yaşadığı, %42,2'sinin ağrı şiddetinin 3-6 puan arası olduğu, %48,9'unun ağrısının sabit ve %81,7'sinin sürekli ağrı yaşadığı bulunmuştur. Hastaların, %58,3'ünün 0-6 aydır ağrı yaşadığı, %80'inin kemoterapi sonrasında ağrısının arttığı ve %84,4'ünün ilaç aldıktan sonra ağrısının azaldığı belirlenmiştir. Ağrı için %83,9'unun ilaç tedavisini kullandığı, %76,1'inin ağrıyı gidermede ilaç dışında herhangi bir yöntem kullanmadığı, %38,3'ünün her gün, %26,7'sinin haftada bir ağrı yaşadığı ve %45'inin yaşadığı ağrıdan biraz rahatsız olduğu bulunmuştur (Tablo 2).

Tablo 2. Hastaların ağrı durumu ve ağrıyla baş etme envanteri (ABE) alt boyut puan ortancalarının ağrı özelliklerine göre karşılaştırılması (n=180)

Özellikler	**n (%)**	**Ağrıyla Baş Etme Envanteri**					
		Aktif Baş Etme			**Pasif Baş Etme**		
		Median (IQR)	**Min-Maks**	**Test değeri**	**Median (IQR)**	**Min-Maks**	**Test değeri**
Ağrının yayılımı							
Bölgesel	141 (78,3)	2,75 (2,19)	1,00-4,00	Z= -0,712	2,35 (1,78)	1,00-4,00	Z= -1,527
Tüm vücut	39 (21,7)	2,75 (1,88)	1,00-4,00	p= 0,476	2,71 (1,14)	1,00-4,00	p= 0,127
Ağrının şiddeti							
0-2 puan arası[a]	69 (38,3)	3,50 (1,07)	1,25-4,00	KW= 73,226	1,50 (0,96)	1,00-3,42	KW= 98,387
3-6 puan arası[b]	76 (42,2)	2,62 (1,44)	1,12-4,00	**p= *0,0001**	2,71 (1,06)	1,15-4,00	**p= *0,0001**
7 puan ve üzeri[c]	35 (19,4)	1,37 (0,59)	1,00-2,87		3,78 (0,93)	1,07-4,00	
Gruplar arası farklılık		a > b > c			c > b > a		
Ağrının niteliği							
Batıcı[a]	48 (26,7)	3,00 (1,78)	1,00-4,00		2,07 (1,48)	1,00-4,00	
Keskin[b]	23 (12,8)	1,37 (1,63)	1,12-4,00	KW= 6,527	2,85 (1,50)	1,14-4,00	KW= 10,114
Zonklayıcı[c]	21 (11,7)	2,00 (1,81)	1,00-4,00	p= 0,089	3,00 (1,71)	1,07-4,00	**p= *0,018**
Sabit[d]	88 (48,9)	2,75 (2,10)	1,00-4,00		2,49 (1,75)	1,00-4,00	
Gruplar arası farklılık					c > a, b, d		

Tablo 2. (Devamı)

Ağrının ritmi							
Sürekli[a]	147 (81,7)	2,62 (2,00)	1,00-4,00		2,64 (0,71)	1,00-4,00	
Ritmik[b]	8 (4,4)	1,87 (2,00)	1,37-4,00	KW= 6,596	2,92 (1,51)	1,42-3,78	KW= 24,516
Kısa[c]	22 (12,2)	3,22 (1,45)	1,12-4,00	p= 0,086	1,42 (1,25)	1,00-3,50	**p= *0,0001**
Anlık[d]	3 (1,7)	3,25 (0,13)	3,12-3,50		1,00 (1,00)	1,00-1,50	
Gruplar arası farklılık					b > a > c, d		
Ağrıyı ne kadar süredir yaşadığı							
0-6 ay	105 (58,3)	2,62 (2,13)	1,00-4,00		2,42 (1,71)	1,00-4,00	
7-12 ay	22 (12,2)	2,43 (1,38)	1,16-3,12	KW= 8,181	3,07 (1,00)	1,07-4,00	KW= 6,886
13-36 ay	31 (17,2)	3,00 (1,50)	1,00-4,00	p= 0,085	2,28 (1,43)	1,00-4,00	p= 0,142
37-60 ay	14 (7,8)	3,00 (0,91)	1,37-4,00		2,35 (1,20)	1,14-4,00	
61 ay ve üzeri	8 (4,4)	2,37 (2,40)	1,25-4,00		3,17 (1,81)	1,14-3,78	
Ağrıyı artıran faktörler							
Kemoterapi alma	144 (80,0)	2,87 (1,87)	1,00-4,00	Z= -3,633	2,42 (1,68)	1,00-4,00	Z= -1,623
Hareket etme	36 (20,0)	1,75 (1,50)	1,00-4,00	**p= *0,0001**	2,74 (1,46)	1,07-4,00	p= 0,105
Ağrıyı azaltan faktörler							
İlaç kullanma[a]	152 (84,4)	2,81 (2,13)	1,00-4,00		2,42 (1,70)	1,00-4,00	
Tıbbi beslenme (mama)[b]	11 (6,1)	2,25 (1,25)	1,37-3,37	KW= 2,790	3,00 (0,93)	2,07-3,85	KW= 10,662
Masaj yaptırma[c]	9 (5,0)	2,37 (1,06)	1,37-3,75	p= 0,425	2,92 (0,47)	1,71-4,00	**p= *0,014**
Dinlenme[d]	8 (4,4)	3,37 (2,62)	1,25-4,00		1,78 (0,93)	1,00-2,35	
Gruplar arası farklılık					b > c, a > d		
Ağrı için ilaç tedavisi kullanma							
Evet	151 (83,9)	2,62 (2,00)	1,00-4,00	Z= -2,564	2,71 (1,43)	1,00-4,00	Z= -4,651
Hayır	29 (16,1)	3,25 (1,49)	1,16-4,00	**p= *0,010**	1,50 (0,93)	1,00-3,78	**p= *0,0001**
İlaç dışında ağrıyı gidermede kullanılan herhangi bir yöntem							
Evet	43 (23,9)	2,62 (1,75)	1,00-4,00	Z= -1,479	2,78 (1,29)	1,00-4,00	Z= -0,668
Hayır	137 (76,1)	2,87 (2,13)	1,00-4,00	p= 0,139	2,42 (1,61)	1,00-4,00	p= 0,504
Ne sıklıkta ağrı yaşadığı							
Her gün[a]	69 (38,3)	2,12 (1,44)	1,00-4,00		3,07 (1,15)	1,00-4,00	
3-4 günde bir[b]	27 (15,0)	3,00 (1,87)	1,37-4,00	KW= 26,841	2,14 (2,07)	1,00-4,00	KW= 33,215
Haftada bir[c]	48 (26,7)	3,18 (1,43)	1,12-4,00	**p= *0,0001**	1,81 (1,10)	1,00-4,00	**p= *0,0001**
Ayda bir[d]	36 (20,0)	2,93 (1,87)	1,00-4,00		2,57 (1,00)	1,00-4,00	
Gruplar arası farklılık	c > a, b, d				a > b, c, d		
Yaşanan ağrının rahatsız etme derecesi							
Oldukça fazla[a]	41 (22,8)	1,37 (0,50)	1,00-3,37		3,71 (1,00)	1,07-4,00	
Orta derece[b]	58 (32,2)	2,50 (1,63)	1,12-4,00	KW= 76,544	2,74 (1,02)	1,15-4,00	KW= 95,009
Biraz[c]	81 (45,0)	3,50 (1,13)	1,25-4,00	**p= *0,0001**	1,71 (0,93)	1,00-3,50	**p= *0,0001**
Gruplar arası farklılık	c > b > a				a > b > c		

*Not: IQR =Çeyrekler açıklığı; Min: Minimum; Maks: Maksimum; Z = Mann-Whitney U testi; KW = Kruskal Wallis Test; *p<0,05.*

Hastaların, aktif baş etme stratejisi puan ortancaları ile ağrının şiddeti, ağrıyı artıran faktörler, ağrı için ilaç tedavisi kullanma, yaşanan ağrının sıklığı ve ağrının rahatsız etme derecesi arasında istatistiksel olarak anlamlı farklılık bulunmuştur ($p<0,05$). Ağrı şiddeti 0-2 puan arasında olan, ağrısını artıran faktörü kemoterapi olarak belirten, ağrı için ilaç tedavisi kullanmayan, haftada bir ağrı yaşayan ve yaşadığı ağrıdan biraz etkilenenlerin aktif baş etme stratejisi puan ortancasının daha yüksek olduğu belirlenmiştir (Tablo 2).

Hastaların, pasif baş etme stratejisi puan ortancaları ile ağrının şiddeti, niteliği, ritmi, ağrıyı azaltan faktörler, ağrı için ilaç tedavisi kullanma, yaşanan ağrının sıklığı ve ağrının rahatsız etme derecesi arasında istatistiksel olarak anlamlı farklılık bulunmuştur ($p<0,05$). Ağrı şiddeti 7 puan ve üzerinde, zonklayıcı nitelikte ve ritmik ağrısı olan, ağrıyı azaltan faktörü tıbbi beslenme (mama) olarak belirten, ağrı için ilaç tedavisi kullanan, her gün ağrı yaşayan ve yaşadığı ağrıdan oldukça fazla etkilenenlerin pasif baş etme stratejisi puan ortancasının daha yüksek olduğu belirlenmiştir (Tablo 2).

Tablo 3. Ağrıyla baş etme envanteri (ABE) toplam ve alt boyut puan ortancaları (n=180)

ABE alt boyutları	Median (IQR)	Min- Maks
Aktif baş etme stratejileri	**2,75 (2,13)**	**1,00-4,00**
Uzaklaşma	3,00 (3,00)	1,00-4,00
Ağrıyı dönüştürme	2,37 (1,50)	1,00-4,00
Rahatlatıcı düşünme	4,00 (3,00)	1,00-4,00
Pasif baş etme stratejileri	**2,46 (2,11)**	**1,00-4,00**
Endişe	2,00 (1,79)	1,00-4,00
Dinlenme	3,00 (2,00)	1,00-4,00
Geri çekilme	3,00 (1,50)	1,00-4,00

Not: IQR =Çeyrekler açıklığı; Min: Minimum; ; Maks: Maksimum.

Hastaların, aktif baş etme stratejileri puan ortancasının 2,75 (2,13), pasif baş etme stratejileri puan ortancasına göre 2,46 (2,11) daha yüksek olduğu belirlenmiştir (Tablo 3).

Onkoloji hastalarının, tanıtıcı özelliklerine göre ağrıyla baş etme yöntemleri arasındaki farklılık literatür eşliğinde tartışıldığında; bu araştırmada, cinsiyet, eğitim düzeyi, çalışma durumu ve mesleğinin ağrıyla baş etme stratejilerini etkilediği belirlenmiştir. Kanser hastaları ile yapılan bir çalışmada, ağrı yönetiminde non-farmakolojik yöntemlerin kullanılmasının yaş, medeni durum, eğitim, meslek ve hastalığın yerleşim yerine göre değişiklik gösterdiği belirlemiştir.[16] Afşar ve Pınar (2003) çalışmasında, kanser hastalarında cinsiyet ve sosyoekonomik durumuna göre ağrıyla baş etme yöntemlerinin farklılık gösterdiği bulunmuştur. Aynı çalışmada, erkeklerin ağrılarını sözel olarak, kadınların ise duygusal olarak ifade ettikleri belirlenmiştir. Ayrıca, geliri giderini karşılamayan bireylerde ağlama gibi davranışların ağrıya daha fazla eşlik ettiği ve ağrıyla baş etme yöntemlerini etkilediği bulunmuştur.[17] Başka bir çalışmada da ağrı tepkilerinde cinsiyet farklılıklarının olabileceği belirlenmiştir.[18] Diğer bir çalışmada da kadın, evli ve herhangi bir işte çalışmayanların ağrıyla pasif başa çıkma puan ortalamalarının istatistiksel açıdan anlamlı olduğu belirlenmiştir.[19] Bu araştırmanın bulguları, bu yönüyle literatüre benzerlik göstermektedir.

Türk toplumunun erkeğe dayanıklılık ve güç imgesini yüklediği bilinmektedir.[20] Bu nedenle erkeklerde güçlü görünme imgesinin bozulması kaygısı ağrının daha iyi tolere edilmesini ve aktif baş etme stratejilerinin daha fazla kullanılmasını etkilemiş olabilir. Mesleki açıdan

incelendiğinde, bu araştırmada işçi olanların ağrıyla aktif baş etme stratejilerini daha fazla kullandığı belirlenmiştir. Türkiye İstatistik Kurumu (TÜİK) 2023 işgücü verilerine bakıldığında; kadınlarda istihdam oranı %31,2 iken bu oran erkeklerde %66,9 olduğu saptanmıştır.[21] Bu araştırmada, işçi pozisyonunda çalışanların çoğunlukla erkek ve istihdam oranlarının fazla olması ağrıyla aktif baş etme stratejilerine katkı sağlamış olabilir. Kişinin çalışması gelir durumunu doğrudan etkilemektedir. Kanser hastalarında tedavi sürecinin uzun ve kapsamlı olması nedeniyle ekonomik güçlüklerin yaşandığı bilinmektedir.[17] Bu nedenle çalışan kişilerdeki ekonomik refah ağrıyla aktif baş etme stratejilerinin kullanılmasına katkı sağlamış olabilir. Yapılan bir çalışmada, eğitim seviyesinin artması e-sağlık ve dijital okuryazarlığı da artırdığı belirlenmiştir.[22] Bu araştırmada, üniversite mezunlarının sağlık okuryazarlığının daha yüksek olması ağrıyla aktif baş etme stratejilerinin daha fazla kullanılmasını etkilemiş olabilir.

Onkoloji hastalarının, ağrı özelliklerine ilişkin bilgileri ile ağrıyla baş etme yöntemleri arasındaki farklılıklar literatür eşliğinde tartışıldığında; bu araştırmada, hastaların ağrı durumlarının baş etme stratejilerini etkilediği belirlenmiştir. Ağrının şiddeti, niteliği, ritmi, ağrıyı artıran ve azaltan faktörler, ağrı için ilaç tedavisi kullanma, ağrının sıklığı ve yaşanan ağrının kişiyi rahatsız etme derecesine göre baş etmenin farklılık gösterdiği bulunmuştur. Yapılan bir çalışmada, ağrı şiddetinin, ağrıyı artıran ve azaltan faktörlerin ağrıyla baş etme yöntemlerini etkilediği belirlenmiştir.[17] Bu araştırmanın sonucu literatür bilgisi ile uyum olup beklenen niteliktedir. Ağrı şiddetinin artması aktif baş etmeyi olumsuz etkileyeceği düşünülmektedir. Benzer şekilde ağrının zonklayıcı nitelikte, ritmik, sık olarak devam etmesi, ağrıyı artıran faktörlerin kontrol edilememesi de kişiyi pasif baş etme stratejilerine yönlendirmesi beklenmektedir. Toplam 36 çalışmanın dahil edildiği bir sistematik derlemede, kanser hastalarının yaşadıkları ağrı sonrasında kullandıkları opoid analjeziklere bağımlılık korkusu, ilaç toleransı endişesi ve ilaç yan etkilerine yönelik kaygılar yaşadıkları belirlenmiştir.[7] Ağrı nedeniyle kullanılan ilaç tedavisine bağlı endişeler yaşanması bu araştırmada ağrısı olduğunda ilaç kullanmayanların aktif baş etme stratejilerine yönelmesine katkı sağlamış olabilir.

Onkoloji hastalarının, ağrıyla baş etme yöntemleri literatür eşliğinde tartışıldığında; bu araştırmada, hastaların ağrıyla aktif baş etme stratejilerini daha fazla kullandıkları belirlenmiştir. Yapılan bir çalışmada, kanser hastalarının çoğunun yaşadıkları ağrıyla baş etmede farmakolojik yöntemlerin yanı sıra non-farmakolojik yöntemleri de kullandıkları belirlenmiştir. En sık kullanılan yöntemlerin dua etme (%87) ve masaj (%63,4) olduğu bulunmuştur. Ayrıca, olumlu düşünce (%53,7), hayal kurma (%47,7), dikkati başka yöne çekme (%42,3) ve müzik dinlemenin (%35,8) de kullanıldığı belirlenmiştir.[5] Başka bir çalışmada, müzik dinlemenin kanser hastalarında ağrı ve kaygıyı azalttığı, yaşam kalitesini yükselttiği bulunmuştur.[23] Bu araştırmanın sonuçları literatür bulgularıyla benzerlik göstermektedir. Ağrısı olduğunda kitap okuma, müzik dinleme, başka bir faaliyetle meşgul olma ve hoş bulduğu bir şeyi yapma gibi aktif baş etme stratejilerini kullandığını belirten kişi sayısının daha fazla olduğu belirlenmiştir. Kanser hastalarında, pozitif psikolojinin semptomların yönetimine yardımcı olduğu ve yaşam kalitesini iyileştirdiği bildirilmektedir.[24] Bu araştırmada, ağrısı olduğunda "güzel şeyleri ve olayları düşünürüm" şeklinde aktif baş etme stratejisini kullananların daha fazla olduğu belirlenmiştir. Kanser hastalarında müzik dinleme, olumlu düşünme ve pozitif psikolojinin olumlu etkilerinin olması bu araştırmada ağrıyla aktif baş etme stratejilerinin daha fazla kullanılmasına katkı sağlamış olabilir.

SONUÇ VE ÖNERİLER

Onkoloji hastalarının yaşadıkları ağrıyla aktif baş etme stratejilerinin artırılması, ağrının daha etkin kontrol edilmesini sağlayıp yaşam kalitelerinin yükseltilmesi açısından oldukça önemlidir. Bu araştırmanın sonucu, onkoloji hastalarının yaşadıkları ağrıda çoğunlukla aktif baş etme stratejilerini kullandığını göstermektedir. Ağrıyla aktif ve pasif baş etme stratejilerinin kullanılmasının cinsiyet, eğitim durumu, çalışma durumu, meslek, ağrının şiddeti, niteliği, ritmi, ağrıyı artıran ve azaltan faktörler, ağrı için ilaç tedavisi kullanma, ağrının sıklığı ve rahatsız etme derecesine göre anlamlı farklılık gösterdiği belirlenmiştir.

Bu araştırmanın sonucunda, onkoloji hastalarının ağrıyla aktif baş etme stratejilerini etkileyen faktörlerin göz önüne alınması, hemşirelerin, diğer sağlık profesyonellerinin ve bakım vericilerin bu konuda gerekli desteği sağlaması önerilmektedir.

KAYNAKLAR

1. Arslan, M, Albaş, S, Küçükerdem, H.S, Pamuk, G. ve Can, H. (2016). "Vizüel analog skala ile kanser hastalarında palyatif ağrı tedavisinin etkinliğinin değerlendirilmesi". Family Practice & Palliative Care, 1 (1), 5-8.

2. LeVoir, A, Lee, M, Fitzgibbon, D, Hsu, M. and Posner, K. (2021). "Chronic opioid therapy in cancer survivors at a specialty oncology pain clinic: Opioid dosing, efficacy, and safety during five years of pain management". Journal of Pain and Symptom Management, 61 (5), 1080-1087. https://doi.org/10.1016/j.jpainsymman.2020.11.002.

3. İnanç Yılmaz, B. ve Kanan, N. (2021). "Yenidoğanda ağrı yönetimi ve hemşirelerin rolleri". Genel Sağlık Bilimleri Dergisi, 3 (3), 273-285. https://doi.org/10.51123/jgehes.2021.36.

4. Demirağ, H, Hintistan, S, Doğan, E.S. ve Uçan, M.F. (2023). "The fear of pain in hospitalized patients in medical and surgical departments". Genel Sağlık Bilimleri Dergisi, 5 (1), 22-33. https://doi.org/10.51123/jgehes.2023.72.

5. Genç, F, Köçkar, Ç, Mutlu, F. ve Buğdaycı, M. (2018). "Kanser hastalarının ağrı için kullandıkları non-farmakolojik yöntemler". Koç Üniversitesi Hemşirelikte Eğitim ve Araştırma Dergisi (HEAD), 15 (2), 88-93. doi:10.5222/HEAD.2018.088.

6. Bahar, A, Ovayolu, Ö. ve Ovayolu, N. (2019). "Onkoloji hastalarında sık karşılaşılan semptomlar ve hemşirelik yönetimi". ERÜ Sağlık Bilimleri Fakültesi Dergisi, 6 (1), 42-58.

7. Makhlouf, S.M, Pini, S, Ahmed, S. and Bennett, M.I. (2020). "Managing pain in people with cancer—a systematic review of the attitudes and knowledge of professionals, patients, caregivers and public". Journal of Cancer Education, 35, 214-240. https://doi.org/10.1007/s13187-019-01548-9.

8. Caraceni, A. and Shkodra, M. (2019). "Cancer pain assessment and classification". Cancers, 11 (4), 510. https://doi.org/10.3390/cancers11040510.

9. Ruano, A, Garcia-Torres, F, Galvez-Lara, M. and Moriana, J.A. (2022). "Psychological and non-pharmacologic treatments for pain in cancer patients: a systematic review and meta-analysis". Journal of Pain and Symptom Management, 63 (5), e505-e520. https://doi.org/10.1016/j.jpainsymman.2021.12.021.

10. Kang, H. (2021). "Sample size determination and power analysis using the G* Power software". Journal of Educational Evaluation for Health Professions, 18, 17. https://doi.org/10.3352/jeehp.2021.18.17.

11. Hocaoğlu Uzunkaya, A. (2019). "~~"~~Bir stres türü olarak kronik ağrı ve sağlık sonuçları arasındaki ilişkide ağrıyla başetme stratejilerinin aracı rolü: Özetkinlik inançlarının rolü~~"~~. Doktora Tezi. İstanbul Üniversitesi Sosyal Bilimler Enstitüsü, ~~Psikoloji Anabilim Dalı,~~ İstanbul.

12. Schumacher, K.L, Clark, V.L.P, Rabow M.W, Paul, S.M. and Miaskowski, C. (2021). "The experience of complex pain dynamics in oncology outpatients: A longitudinal qualitative analysis". Cancer Nursing, 44 (2), 136. https://doi.org/10.1097%2FNCC.0000000000000747.

13. Kraaimaat F.W. and Evers, A.W. (2003). "Pain-coping strategies in chronic pain patients: psychometric characteristics of the pain-coping inventory (PCI)". International Journal of Behavioral Medicine, 10, 343-363.

14. Hocaoğlu, A, Sertel Berk, H.Ö. ve Ketenci, A. (2019). "Ağrıyla Başetme Envanteri'nin Geçerlik ve Güvenirlik Çalışması". Agri/Journal of the Turkish Society of Algology, 31 (1), 32-41. doi: 10.5505/agri.2018.46503.

15. Equador. (2023). "The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) Statement: Guidelines for reporting observational studies". Erişim adresi: https://www.equator-network.org/reportingguidelines/strobe/. (Erişim tarihi: 10.07.2023).

16. Can, G, Erol, O, Topuz, E. ve Aydıner A. (2009). "Quality of life and complementary and alternative medicine use among cancer patients in Turkey". European Journal of Oncology Nursing, 13 (4), 287-294. doi: 10.1016/j.ejon.2009.03.007.

17. Afşar, F. ve Pınar, R. (2003). "Kanser hastalarında ağrı ve ağrı ile başetme yöntemlerinin değerlendirilmesi". Anadolu Hemşirelik ve Sağlık Bilimleri Dergisi, 6 (3), 19-28.

18. Sorge, R.E. and Strath, L.J. (2018). "Sex differences in pain responses". Current Opinion in Physiology, 6, 75-81. https://doi.org/10.1016/j.cophys.2018.05.006.

19. Karaman, E, Sayın Kasar, K. ve Kankaya, H. (2021). "Yaşlı bireylerin kronik ağrıyla baş etme durumları ve etkileyen faktörlerin incelenmesi". Ege Tıp Dergisi, 60 (4), 375-383. https://doi.org/10.19161/etd.1037456.

20. Aydın, M, Bekar, E.Ö, Gören, Ş.Y. ve Sungur, M.A. (2016). "Hemşirelik öğrencilerinin toplumsal cinsiyet rollerine ilişkin tutumları". Bolu Abant İzzet Baysal Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 16 (1), 223-242. https://doi.org/10.11616/basbed.vi.455842.

21. Türkiye İstatistik Kurumu (TÜİK). (2023). "İşgücü İstatistikleri, Ocak 2023". Erişim adresi: https://data.tuik.gov.tr/Bulten/Index?p=%C4%B0%C5%9Fg%C3%BCc%C3%BC-%C4%B0statistikleri-Ocak-2023-49386&dil=1. (Erişim Tarihi: 14.09.2023).

22. Hiçyakmazer, E. ve Mete, M. (2022). "Bireylerde dijital okuryazarlık ve e-sağlık okuryazarlığının demografik özellikler açısından değerlendirilmesi". Eurasian Academy of Sciences Social Sciences Journal, 41, 120-134. https://doi.org/10.17740/eas.soc.2022.V41-08.

23. Bradt, J, Dileo, C, Magill, L. and Teague, A. (2016). "Music interventions for improving psychological and physical outcomes in cancer patients". Cochrane Database Systematic Reviews, 15 (8), CD006911. doi:10.1002/14651858.CD006911.pub3.

24. Sheikh-Wu, S.F, Anglade, D, Gattamorta, K. and Downs, C.A. (2023). "Relationships between colorectal cancer survivors' positive psychology, symptoms, and quality of life". Clinical nursing research, 32 (1), 171-184. https://doi.org/10.1177/10547738221113385.

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Karantinanın Arka Yüzü: COVID-19 Salgını Sırasında Yoğun Bakım Sağlık Çalışanlarının Deneyimleri, Psikososyal Sorunları ve Baş Etme Stratejileri

The Back Side of Quarantine: Experiences, Psychosocial Problems and Coping Strategies of Intensive Health Care Workers During the COVID-19 Pandemic

Hülya YILMAZ[1], Hamide Nur ÇEVİK ÖZDEMİR[2], Fatma NAİR AKTAŞ[3], Kazım ŞENOL[4]

ÖZ

COVID-19 salgını nedeniyle dünya çapında sağlık sistemleri zorlu koşullar altında kalmıştır. Doktorlar ve hemşireler, COVID-19 ile mücadelede ön saflarda yer aldıkları için yoğun bakım ünitelerinde ihtiyaç duyulan uzman hasta bakımını sağlamada büyük bir sorumluluğa sahiptir. Bu çalışmanın amacı COVID-19 pandemi sürecinde yoğun bakım ünitesinde çalışan sağlık çalışanlarının deneyimlerini, psikososyal sorunlarını ve başa çıkma stratejilerini ortaya koymaktır.

Fenomenolojik tasarımdaki araştırma Mayıs 2021 - Eylül 2021 tarihleri arasında Yoğun Bakım Ünitesi'nde COVID-19 hastalara sağlık hizmeti sunan 16 sağlık profesyoneli (hemşire, hekim) ile yürütülmüştür. Katılımcılar ile yarı yapılandırılmış görüşmeler yüz yüze görüşme tekniğiyle, ses kaydı alınarak gerçekleştirilmiştir. Veriler tümevarımsal içerik analizi tekniğiyle Colaizzi'nin yedi aşamalı yöntemi kullanılarak analiz edilmiştir.

Katılımcılar, pandeminin etkileri (a), başa çıkma stratejileri (b), mesleğe bakış açısı (c) ve beklentiler (d) olmak üzere dört ana tema bildirmiştir. Pandemi sürecinde yoğun bakım sağlık çalışanları korku, stres, kaygı gibi psikososyal sorunlar yaşadığını ve izolasyon sürecinden etkilendiğini ifade etmiştir. Yoğun bakım sağlık çalışanları psikososyal desteğe, koruyucu ekipmana ve iyileştirilmiş çalışma koşullarına ihtiyacı olduğunu paylaşmıştır.

Yoğun bakım sağlık çalışanları, COVID-19 pandemisi nedeniyle zor koşullar ve yoğun stres altında çalışmaktadır.

Anahtar Kelimeler: Yoğun bakım sağlık çalışanları, COVID-19, Psikososyal sorunlar, Baş etme stratejileri

ABSTRACT

The COVID-19 outbreak has been under challenging conditions, healthcare systems around the world. Doctors and nurses have a dramatic responsibility in providing the expert patient care needed in intensive care units as they are on the front lines of the fight against COVID-19. This study was planned to determine the experiences, psychosocial problems and coping strategies of intensive health care workers during the COVID-19 pandemic.

The research in phenomenological design was conducted with 16 healthcare workers (nurses, physicians) who provided healthcare services to COVID-19 patients in the Intensive Care Unit between May 2021 and September 2021. Semi-structured interviews with the participants were conducted using face-to-face interview technique and audio recording. The data were analyzed using Colaizzi's seven-step method with inductive content analysis technique.

Participants reported four main themes: effects of the pandemic (a), coping strategies (b), perspective on the profession (c) and expectations (d). During the pandemic, intensive care healthcare professionals stated that they experienced psycho-social problems such as fear, stress, anxiety and were affected by the isolation process. Intensive care healthcare workers shared that they need psycho-social support, protective equipment and improved working conditions.

Intensive care healthcare workers work under difficult conditions and intense stress due to the COVID-19 pandemic.

Keywords: Intensive care unit healthcare professionals, COVID-19, Psychosocial problems, Cope with strategies

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[1] Dr. Öğr. Üyesi, Hülya YILMAZ, Hemşirelik Esasları, Bursa Uludağ Üniversitesi Sağlık Bilimleri Fakültesi Hemşirelik Bölümü, hlyyilmaz@uludag.edu.tr, ORCID:0000-0003-4729-1987
[2] Dr. Öğr. Üyesi, Hamide Nur ÇEVİK ÖZDEMİR, Çocuk Sağlığı ve Hastalıkları Hemşireliği, Afyonkarahisar Sağlık Bilimleri Üniversitesi Sağlık Bilimleri Fakültesi Hemşirelik Bölümü, nur.ozdemir@afsu.edu.tr, ORCID:0000-0002-1199-8801
[3] Hemşire, Fatma NAİR AKTAŞ, Genel Cerrahi Yoğun Bakım Ünitesi, Bursa Uludağ Üniversitesi Sağlık Uygulama ve Araştırma Hastanesi, fatma.nairr@gmail.com, ORCID:0000-0003-1377-1026
[4] Doçent, Kazım ŞENOL, Genel Cerrahi, Bursa Uludağ Üniversitesi Tıp Fakültesi, Cerrahi Tıp Bilimleri Bölümü, kazimsenol@uludag.edu.tr, ORCID:0000-0001-6273-0664
İletişim / Corresponding Author: Hülya YILMAZ
e-posta/e-mail: hlyyilmaz@uludag.edu.tr

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GİRİŞ

İnsanlık tarihi boyunca kolera, tifüs, suçiçeği, tüberküloz, cüzzam, sıtma ve sarı ateş gibi küresel anlamda etki eden pandemiler meydana gelmiştir.[1] 14. yüzyılda Avrupa nüfusunun en az üçte biri olan 25 milyon insanı öldüren kara veba'dan insanlığın en kötü salgınlarından biri olarak söz edilir, bu da doğrudan günümüzdeki koronavirüs "modern vebası" ile karşılaştırmaları akla getirip 7 milyona yakın insanın ölümüne yol açtığı Dünya Sağlık Örgütü tarafından kayıtlıdır.[2] Dünya genelinde salgın zamanlarında sağlık sistemleri, yöneticileri ve hizmet sunucuları aşırı yük ve baskı altında kalmıştır. COVID-19 pandemisi tüm dünyayı etkisi altına alarak sağlık çalışanlarının refahını, emosyonel ve fiziksel sağlığını, çalışma koşullarını etkilemiştir.[3]

Avrupa nüfusunun en az üçte biri olan 25 milyon insanı öldüren 14. yüzyılda gerçekleşen kara veba'dan insanlığın en kötü salgınlarından biri olarak söz edilir, bu da doğrudan günümüzdeki koronavirüs "modern vebası" ile karşılaştırmaları akla getirip 7 milyona yakın sayıda insanı öldürdüğü Dünya Sağlık Örgütü tarafından kayıtlıdır.[2] COVID-19 salgını dünya genelinde acil bir sağlık sorunu olup, sağlık çalışanlarının refahını, zihinsel sağlığını ve iş verimliliğini büyük ölçüde etkilemektedir.[3] Araştırma sonuçları sağlık çalışanlarının koronavirüs salgını sırasında zihinsel ve psikolojik sağlık durumlarının artan bir ivmeyle kötüleştiğini göstermiştir.[4, 5] Bu sonuçlara göre Sağlık çalışanlarında genel olarak topluma kıyasla daha yüksek oranda anksiyete, tükenmişlik, depresyon, travma sonrası stres bozukluğu ve benzeri psikolojik sorunlara maruziyet tanılanmıştır.[5, 6] Önceki çalışmalar, bazı yoğun bakım hemşirelerinin COVID-19 hastalarına bakarken fiziksel sorunlar (örneğin, uyku bozuklukları, baş ağrıları) ve psikolojik belirtiler (örneğin, anksiyete, depresyon ve ciddi vakalarda intihar düşünceleri) yaşadığını göstermiştir.[7, 8] Nicel çalışmalar, COVID-19'lu hastalara bakım veren birinci hattaki sağlık çalışanlarının anksiyete, depresyon, uykusuzluk ve stres gibi ruhsal sağlık sorunları riskinin daha yüksek olduğunu göstermiştir.[9] Bu bulgularla çelişkili olarak yakın tarihimizde daha önce SARS, Ebola ve MERS-CoV gibi diğer bulaşıcı hastalık salgınları sırasında yapılan çalışmalar, sağlık çalışanlarında psikolojik dayanıklılığın, başa çıkma davranışlarının ve sosyal desteklerin, enfekte hastalara bakmanın psikolojik ve zihinsel yüküne karşı koruyucu bir rolü olduğunu belirtmiştir.[10] COVID-19 salgını sırasında yapılan çalışmalarda bu ölümcül virüsle mücadelede ön saflarda olan sağlık çalışanlarının psikolojik dayanıklılık, baş etme yöntemleri ve sosyal destek gibi zihinsel sağlığını ve refahını koruduğunu saptayan benzer bulgulara da rastlanılmıştır.[3, 6]

En ön hatta savaşan yoğun bakım ünitesinde (YBÜ) çalışan doktorlar ve hemşireler, bulaşıcı hastalık uzmanlığı olmasa dahi bu stresli durumda yeni bir adaptasyon sağlamak için büyük zorluklarla karşılaşmışlardır. COVID-19 pandemisinde yoğun bakım çalışanlarında yürütülen araştırmalar, çalışanların zorluk yaşadığı ve daha fazla psikolojik desteğe ihtiyaç duyduğunu göstermektedir.[11] Bu ihtiyaçlar ve eksiklikler göz önüne alındığında, sağlık hizmeti sunucularının deneyimlerini ve ihtiyaçlarına ilişkin görüşlerini değerlendirmek için bütüncül felsefeye ve tümevarımsal akıl yürütmeye dayalı nitel araştırmalar uygundur.[12] Ancak, ulusal alan yazında, COVID-19 hastalarına bakım veren yoğun bakım sağlık çalışanlarının duygularını, düşüncelerini ve deneyimlerini ifade eden, psikososyal sorunları ve baş etme stratejileri ile ilgili fenomonolojik çalışmalar sınırlıdır. Bu bağlamda bu araştırmada COVID-19 pandemi sürecindeki YBÜ sağlık çalışanlarının psikososyal durumları hakkında ayrıntılı bir inceleme ile pandeminin olumsuz etkilerle nasıl baş etme stratejileri geliştirdiği hakkında duygularını, düşüncelerini ve deneyimlerini ifade etme fırsatı sunulmuştur. Bu çalışmanın amacı, COVID-19 hastalarına bakım veren yoğun bakım hemşirelerinin ve doktorlarının

deneyimlerini, psikososyal sorunlarını ve baş etme stratejilerini anlamak ve açıklamaktır.

MATERYAL VE METOT

Araştırmanın Tipi

Bu çalışmada, nitel araştırma yöntemlerinden betimsel fenomenolojik araştırma modeli kullanıldı. Betimsel fenomenoloji, bireylerin günlük yaşam deneyimlerini ve onların bu deneyimlerini nasıl yorumladığını, anlamlandırdığını açıklar.[13]

Araştırmanın Yeri ve Zamanı

Araştırma Mayıs 2021-Eylül 2021 tarihleri arasında, bir üniversite hastanesinin yoğun bakım biriminde yürütülmüştür. COVID-19 pandemisi sırasında yoğun bakım ünitesinde çalışan hemşire ve hekimlerin deneyimlerini psikososyal sorunlarını ortaya çıkarmak, onların duygu ve düşüncelerini anlamak için bu yaklaşım seçilmiştir.

Araştırmanın Evreni ve Örneklemi

Araştırmanının evrenini COVID-19 yoğun bakım hastalarına tedavi ve bakım veren sağlık çalışanları oluşturmuştur. Sağlık bilimleri alanında yürütülen nitel araştırmalarda amaçlı örneklem büyüklüğünün belirlenmesinde veri doygunluğuna ulaşmak "altın standart" olarak ifade edilmektedir.[14] Araştırmanın örneklemi belirlenirken amaçlı örnekleme yöntemlerinden "Ölçüt Örnekleme Yöntemi" kullanılmıştır. Bu örnekleme yöntemi, önceden belirlenmiş bir dizi ölçütü karşılayan bütün durumların çalışılmasıdır. Bu ölçütler, araştırmacılar tarafından oluşturulabilir ya da daha önceden belirlenmiş ölçütler listesi kullanılabilir.[15] Bu çalışmada ölçütler araştırmacılar tarafından oluşturulmuştur. Ölçütler: Türkçe okuma, yazma, konuşma becerilerine sahip olma, soruları anlama ve fikirlerini ifade edebilecek yeterlilikte olma; COVID-19 tanılı hastaya tedavi ve bakım hizmeti sunma, en az bir yıl yoğun bakım deneyim sahibi olma, araştırmaya katılmaya gönüllü olma gibi parametreleri kapsamaktadır. Bu ölçütleri sağlayan 31 kişi araştırmaya davet edilmiş, 24 kişi çalışmaya katılmayı kabul etmiştir (n=16; K:9 E:7). Bu çalışmada, 16. katılımcıdan sonra yeni bir tema ortaya çıkmadığı için veri doygunluğuna ulaşıldığı kabul edilmiştir. Veri doygunluğu, yeni verilerin yeni bilgi üretmediği noktaya kadar veri toplamak anlamına gelir.[14] Araştırma 16 katılımcı ile tamamlanmıştır.

Katılımcılar

Araştırma Bursa ili sınırları içerisinde bulunan bir sağlık araştırma merkezinde yoğun bakım biriminde çalışan doktor ve hemşirelerin katılımıyla yürütülmüştür. Araştırmaya katılmak isteyen ve araştırmanın amacına uygun olan 8 yoğun bakım doktoru ve 8 yoğun bakım hemşiresi ile görüşme yapılmıştır. Katılımcıların yaş ortalaması 30.81 ± 1.23 cinsiyet dağılımı %56 kadın ve %44 erkek, meslek dağılımı %50 doktor ve %50 hemşire, çalışma süresi ortalaması 3.37 ± 2.39 yıl olarak bulunmuştur.

Veri Toplama Araçları

Araştırmada demografik özellikleri içeren tanıtıcı bilgi formu ve yarı yapılandırılmış görüşme formu kullanılmıştır.

Tanıtıcı bilgi formu: Araştırmacılar tarafından oluşturulan sağlık çalışanlarının kişisel özellikleri ve konu ile ilişkili (yaş, cinsiyet, medeni durum, öğrenim durumu, çalışma yılı, çalıştığı birim) bilgileri içeren 7 sorudan oluşmaktadır.

Yarı Yapılandırılmış Görüşme Formu: Yarı yapılandırılmış görüşme formu, sağlık ekibi üyelerinin yoğun bakıma yönelik yaşadıkları deneyimleri, psikososyal sorunları ve baş etme biçimlerini öğrenmek amacıyla konuyla ilgili kalitatif ve kantitatif çalışmalardan yararlanılarak araştırmacılar tarafından hazırlanmıştır.[7, 16] Görüşme yöntemi kullanılırken, Colaizzi tarafından önerilen yedi aşamalı süreç izlenmiştir. Buna göre; temalama (görüşme amaçlarının belirlenmesi), tasarlama (görüşme formunun hazırlanması), görüşme (görüşmelerin yapılması ve kaydedilmesi), deşifre etme (tüm kayıtların analize hazırlamak için

yazıya dökülmesi), analiz etme (tema ve kodların belirlenmesi), doğrulama (verilerin iki araştırmacı tarafından analiz edilmesi) ve son olarak raporlama (araştırma sonuçlarının paylaşımı) basamakları takip edilmiştir. Literatür taraması ile çalışmanın kuramsal temelleri oluşturulup konu hakkında kapsamlı bilgilere ulaşıldıktan sonra, formda yer alması düşünülen maddeler belirlenmiştir. Görüşme formu yarı yapılandırılmış 6 alt başlığı içermektedir. Form soruları araştırma ekibi ile değerlendirildikten sonra uzman görüşü alınmıştır. Bu maddelerin amaç, anlam ve kapsam açısından değerlendirilmesini ölçmek amacıyla pilot uygulama (n=5 yoğun bakım sağlık çalışanı) gerçekleştirilmiş ve hatalar düzeltilmiştir. Ardından sağlık bilimleri ve eğitim bilimleri olmak üzere iki öğretim üyesine taslak gönderilerek uzman görüşü alınmıştır. Uzman görüşleri doğrultusunda gerekli düzeltmeler yapıldıktan sonra araştırmanın ön görüşme uygulaması gerçekleştirilmiştir.

Verilerin Toplanması

Çalışmanın veri toplama süreci yarı yapılandırılmış, yüz yüze görüşme tekniğiyle gerçekleştirilmiştir (37 dakika-53 dakika). Görüşmeler, araştırma ekibindeki iki kişi tarafından, katılımcılarla bire bir ve yüz yüze, derinlemesine mülakat ile tamamlanmıştır. Çalışmanın etkili ve güvenli bir şekilde yürütülebilmesi için görüşmeler hastanede sessiz bir toplantı odasında yalnızca görüşmeci ve katılımcı olacak şekilde gerçekleştirilmiştir (COVID-19 tedbirleri kapsamında alınan tüm güvenlik ve izolasyon kurallarına dikkat edilerek). Nitel araştırma da, görüşmeye başlamadan önce, görüşülen sağlık personeline güven kazandırmak ve görüşmenin daha rahat geçmesini sağlamak amacıyla; görüşme esnasında söylediklerinin ses kayıt cihazına kaydedileceği, görüşme nedeniyle görüşülen sağlık personeline herhangi bir zarar gelmeyeceği, anlatacağı bilgiler doğrultusunda isminin herhangi bir yerde deşifre edilmeyeceği, görüşmeyi sonlandırmak isterse buna saygı duyulacağı, araştırmacı tarafından belirlenen kod isimlerinden bir tanesini seçmesi ve yazılı onam formunu okuduktan sonra imzalaması gerektiği açıklamaları yapılmıştır. Katılımcıların görüşmedeki sözlü ve sözsüz ifadelerini kaydetmek için ses kayıt cihazı kullanılarak yazılı notlar alınmıştır. Görüşme bitiminden sonraki 24 saat içinde, ses kayıtları kelime kelime elektronik ortamda yazıya dönüştürülerek, transkriptler tamamlanmıştır. Transkriptler onay veya düzeltmeler için katılımcılara tekrar gönderilmiştir.

Veri Analizi

Bu çalışmada demografik verilerin analizinde tanımlayıcı istatistikler kullanıldı. Nitel veri analizinde güvenilirliği artırmak için Colaizzi'nin (1978) fenomenolojik çalışmalar için geliştirdiği yedi adımlı analiz yöntemi seçilmiştir.[17] Birinci adımda transkriptleri (görüşme aktarımlarını) analiz etmek için MAXQDA 20.0 istatistik yazılım paketi ve fenomenolojik analiz adımları kullanılmıştır. Güvenilirliği artırmak için birinci ve ikinci yazar, fenomen hakkında önceden sahip oldukları bilgi ve inançları askıya almayı ve yoğun bakım hemşirelik deneyimlerini kabul etmeyi denemiştir. Colaizzi'nin (1978) adımlarını izleyerek, aktarımlar çekirdek anlamı anlamak için tekrar tekrar gözden geçirilmiştir. İkinci adımda, her aktarımdan önemli ifadeler çıkarılmıştır. Üçüncü adım, ifadeleri kodlara dönüştürmek ve kodlardan anlamlar oluşturmaktır. Dördüncü adımda, benzer kodların oluşturulan anlamları temalara düzenlenmiştir. Beşinci adım, kodlu ifadelerin fenomenin kavramsal anlayışını kazanmak için ayrıntılı bir tanımına entegre edilmesini içermektedir. Veri analizi, veri toplama ile eşzamanlı olarak gerçekleştirilerek veri doygunluğunun ne zaman tamamlandığını belirlemek için yapılmıştır. Altıncı adım, COVID-19 hastalarına bakım veren yoğun bakım çalışanlarının yaşantılarının temel yapısını tanımlamayı içermektedir. Son olarak, yedinci adımda bulgular, sağlamlığı artırmak için katılımcılarla doğrulanmıştır. Kod kategorileri kesin olarak belirlendiğinde, üçüncü ve dördüncü yazar aynı veri üzerinde

bağımsız olarak analizler gerçekleştirmiş ve kodlamaların güvenilirliği sağlanmıştır (kappa katsayısı = 0.89). Son olarak, elde edilen temalar ve kodlar, çalışmanın yazarları dışındaki, uzman, deneyimli iki akademisyen tarafından incelenmiştir.

Güvenirlik

Bu çalışmanın güvenirliği; güvenirlik, uygunluk, aktarılabilirlik ve doğrulanabilirlik kriterlerine göre gerçekleştirilmiştir.[18] İncelenen fenomen ayrıntılı olarak açıklanmıştır. Veriler önceki araştırmaların bulgularıyla karşılaştırılmıştır. Bu bağlamda, bu nitel araştırma sürecinde güvenilirliği sağlamak amacıyla katılımcılardan mülakat kayıtlarının transkriptlerini okumaları ve görüşlerinin doğru bir şekilde aktarıldığını onaylamaları istenmiştir. Katılımcı onayı olarak adlandırılan bu yöntem, iç geçerlilik ve güvenilirlik sağlamayı amaçlar.[19] Aktarılabilirlik için metinler arası katılımcı ifadeleri doğrudan alıntılanarak, çalışma ile incelenen bağlam arasında ayrıntılı tanımlar geliştirilmiştir. Kodlayıcılar arası tutarlılık için analiz aşamasında yapılan kodlamaların ve çıkarımların araştırmada yer almayan iki uzmana gönderilmesiyle güvenilirlik sağlanmıştır. Birden fazla veri toplama yöntemi kullanılarak, araştırmacıların yansıtıcı yorumları dikkate alınarak ve her bir araştırmacı tarafından ayrı ayrı kodlama yapılarak doğrulanabilirlik sağlanmıştır. Kategoriler ve temalardaki benzerlikler ve farklılıklar tüm yazarlar tarafından tartışıldı, daha zorlu tutarsızlıkları gözden geçirmekle görevlendirilen ek bir ekip üyesi ile daha sonra fikir birliğine varılana kadar tartışılmıştır.[20]

Araştırmanın Etik Onayı

Bir Üniversitenin Tıp Fakültesi Klinik Araştırmalar Etik Kurulun'dan etik kurul onayı alınmıştır (Tarih:22.07.2020 Karar no: 2020-13/10). Ayrıca araştırmanın yürütüleceği merkezden yazılı kurum izni alınmıştır. Araştırmaya dâhil edilen YBÜ çalışanlarına araştırma ile ilgili bilgi verilmiş, çalışmaya katılmaya davet edilmiş, sözlü ve yazılı onamları alınmıştır. Araştırma, Helsinki Deklerasyonu Prensipleri'ne uygun olarak yürütülmüştür. Ayrıca yapılan görüşmeler YBÜ çalışanlarından onay alınarak kaydedilmiştir. Ses kayıtları, transkriptler ve görüşme notları şifreli koruması olan bir bilgisayarda saklanmaktadır. Elde edilen tüm veriler araştırma ve yayın prosedürlerinin tamamlanmasından 3 yıl sonra imha edilecektir.

Araştırmanın Kısıtlılıkları

Bu çalışmada, nitel bir tasarım uygulandı ve örneklem büyüklüğü tek merkezle kısıtlıdır. Bu nedenle kesin ve genellenebilir sonuçlara ulaşılmamıştır. Çalışmanın verileri katılımcıların kısa süreli deneyimlerini ortaya koymaktadır, katılımcıların uzun süreli deneyimlerinin araştırılması ve tanımlanması gelecekteki çalışmalar için faydalı olabilir. Ayrıca, bu çalışmanın pandemi hastalarına bakım veren yoğun bakım çalışanları ile sınırlı olduğu ve bulguların diğer YBÜ ünitelerine genelleştirilemeyeceği belirtilmelidir.

BULGULAR VE TARTIŞMA

Çalışmanın bulguları iki bölümde sunulmuştur. Birinci bölümde hemşire ve doktorların bireysel ve mesleki özelliklerine ilişkin demografik özellikler yer almaktadır (Tablo 1). İkinci bölümde görüşmelerden elde edilen temalar sunulmuştur (Tablo 2). Verilerin analizinden 4 ana tema ve 12 alt tema ortaya çıkmıştır. Bunlar; "pandeminin etkileri, baş etme stratejileri, mesleğe bakış açısı ve beklentiler" konularına yöneliktir. Tema ve alt temalar aşağıda açıklanmıştır.

Tema 1: Pandeminin Etkileri

Bu tema katılımcıların COVID-19 pandemisi sırasında yaşadıkları stres, kaygı ve korkuyu içermektedir. Katılımcıların virüsle enfekte olma korkusu, bulaştırma korkusu, değişen yaşam süreçleri ve çalışma koşullarında yaşanan güçlükler bu tema altında ele alınmıştır. Bu tema; emosyonel etkiler, sosyal etkiler, aile yaşantısı ve

çalışma koşullarıyla ilgili dört alt temaya ayrılmıştır.

Emosyonel etkiler

Katılımcıların çoğu, COVID-19 tanılı hastalara bakım verirken ilk zamanlarda belirsizlik duygusu yaşadıklarını ve kendilerini psikolojik olarak rahat hissetmediklerini belirtmiştir. Katılımcıların süreçte yoğun olarak yaşadıkları deneyimler, korku, anksiyete ve stres gibi duygusal tepkiler içermektedir. Çalışmada katılımcıların emosyonel etkiler alt temasını yedi açıklayıcı kodun oluşturduğu belirlenmiştir (Şekil 1). Bazı katılımcıların bu duygulara ilişkin ifadeleri şu şekildedir:

"*İlk zamanlarda çok endişeliydim, özellikle ilk hastalarıma bakım verirken. Bakım verirken ya virüs bana bulaşırsa ya ben aileme, yakınlarıma bulaştırırsam. Benim yüzümden çevremdeki insanlara bir şey olursa diye düşündüm. Özellikle çocuğuma, anneme bir şey olursa diye çok korktum." (Hemş2)*

"Hastaların durumu, sürekli enfeksiyon kapma korkusu…Kocaman bir bilinmezlik içindesin. Hem korkuyorsun hem de hastanın sana ihtiyacı olduğunu biliyorsun. Kendimden ziyade ya aileme bir şey olursa diye kaygılanıyorum. Gerçekten stres altında çalıştım." (Dr16)

Sosyal etkiler

Çalışmadaki birçok katılımcı pandemi nedeniyle sosyal ilişkilerinde kesinti yaşadıklarını, bazıları ise enfeksiyon bulaştırma korkusu nedeniyle bir süreliğine evlerinde kalmadıklarını belirmiştir. Bazı katılımcılar ise yalnızlık duygusunu yoğun yaşadıklarını bildirmiştir:

"Sosyal yaşantınızı istisnasız rafa kaldırmak zorundasınız. Eskisi gibi olamazsınız. Sizden kaynaklı bir nedenle bir başkasına zarar veremezsiniz. Bu düşünceler içinde sosyal yaşamıma, arkadaşlarımla ilişkilerime uzun bir ara verdim. Dışarı çıkmadım ya da evde arkadaşlarımla görüşmedim. Tamamen kendimi onlardan izole ettim. Ailemin yanına da çok gitmek istemedim." (Dr12)

"Pandemi öncesi annemle babamla yaşıyordum. Onlardan evlerine gitmemelerini istedim. Aylarca evde yalnız kaldım. Yaşantım evden işe, işten eve şeklindeydi. Sadece telefon ile arkadaşlarımla görüştüm." (Hemş8)

Aile yaşantısında değişiklik

Katılımcıların birçoğu, ailesine virüs bulaştırmaktan korktuğu için kendilerini ailelerinden ve yakınlarından izole etmiştir. Katılıcıların tamamı enfeksiyonu ev ortamına aktarmaktan, taşıyıcı olma korkusunun süreklilik kazandığını belirtmiştir. Çocuğa sahip olan bazı katılımcılar çocuklarından ayrılmak zorunda kaldığını belirtmiştir.

"Çocuklarımın hastalanmasından endişe duydum. Onlar daha çok küçük. Benden dolayı hasta olmalarını istemem. Onları annemin yanına gönderdim… Bir süre ayrı kaldık. Birbirimizi çok özledik, ama onları korumak zorundaydım." (Hemş6)

"(…) Bu süreçte biz aile olarak daha çok birlikte zaman geçirdik. İş yoğunluğundan aileme yeterince zaman ayıramadığımı fark ettim. Evde kendi kendimize aktiviteler yaptık. Eşimle ve çocuklarımla olan ilişkilerimiz güçlendi…Oysaki birlikte zaman geçirmek harikaymış, hatta ben yemek yaptım, örgü bile ördüm." (Dr14).

Çalışma koşulları

Katılımcıların çoğu, izole hasta odasına girerken kişisel koruyucu ekipman içinde çalışmanın fiziksel olarak yorucu olduğunu belirtmiştir. Koruyucu kıyafet giymenin hareket kabiliyetini kısıtladığını, terleme ve bunalma hissine neden olduğunu belirtmiştir.

Bunun yanı sıra katılımcılar hastaların bakım ihtiyaçlarının fazla olması, mesai saatlerindeki yoğunluğu ve çalışan sayısının yetersizliği nedeniyle daha çok iş yükü altında olduklarını bildirmiştir.

"(…) Koruyucu kıyafetlerimizi giyiyoruz. Bu kıyafetlerle çalışmak gerçekten zor oluyor. Rahatsız edici, terliyorsunuz. Kolay nefes

Tablo 1. Katılımcıların Demografik Özellikleri

	Yaş	Cinsiyet	YBÜ çalışma süresi (yıl)	Medeni durum	Çocuk sayısı	Birlikte yaşadığı kişiler
Hemş 1	25	K	7	Evli	1	Eşi ve çocuğu
Hemş 2	37	K	7	Evli	2	Eşi ve çocuğu
Hemş 3	27	K	7	Evli	-	Eşi
Hemş 4	41	K	2	Evli	1	Eşi ve çocuğu
Hemş 5	32	E	7	Bekar	-	Tek
Hemş 6	36	K	2	Evli	4	Eşi ve çocuğu
Hemş 7	40	K	3	Evli	2	Eşi ve çocuğu
Hemş 8	31	K	1	Bekar	-	Tek
Dr 9	28	E	1	Bekar	-	Tek
Dr 10	27	E	1	Evli	-	Eşi
Dr 11	28	E	2	Bekar	-	Tek
Dr 12	28	K	3	Bekar	-	Tek
Dr 13	28	E	5	Bekar	-	Anne baba
Dr 14	28	E	2	Evli	-	Eşi ve çocuğu
Dr 15	28	E	3	Evli	-	Eşi
Dr 16	29	K	1	Bekar	-	Tek

Hemş = Hemşire, Dr = Doktor, K = Kadın, E = Erkek

Tablo 2. Ana Temalar ve Alt Temalara Genel Bakış

Ana temalar	Alt-temalar	Kodlar
Pandeminin etkileri	Emosyonel etkiler	Stres, korku, endişe, artan anksiyete, artan takıntı, virüsle enfekte olma kaygısı, bilinmezlik
	Sosyal etkiler	Taşıyıcı olma kaygısı, sosyal izolasyon, sosyal ilişkilerde zayıflama
	Aile yaşantısında değişiklik	Uzak kalma, özlem duyma, aile üyelerinin sağlığı ile ilgili endişeler, aile ilişkilerinde güçlenme
	Çalışma koşulları	İş yükünde artış, koruyucu ekipman yetersizliği, iş stresi, koruyucu ekipmanla çalışmakta güçlük, personel sayısında yetersizlik
Baş etme stratejileri	Pozitif düşünme	İyimserlik, olumlama
	Dikkati başka yöne çekme	Film ya da dizi izleme, müzik dinleme, kitap okuma, resim yapma, el sanatlarıyla uğraşma (boyama, kanaviçe, örgü vb.)
	Kabul ve yüzleşme	Kabul etme, durumu rasyonel bir bakış açısıyla değerlendirme, ön yargıdan kaçınma
	Koruyucu önlemleri arttırma	Hijyen davranışlarında artış, bağışıklık sistemlerini destelemek, kendi kendine sosyal izolasyon, çift maske kullanımı
Mesleğe bakış açısı	Mesleki saygı	Mesleğine sevgi ve saygı duyma, mesleki itibarda artış, mesleki tatminde artış
	Mesleki ikilem	Profesyonel rollerde çatışma, bakımın veya tedavinin kalitesinde düşme endişesi, ekonomik yetersizlik
Beklentiler	Kriz ve kaynak yönetimi	Ekipman desteği, personel sayısında artış, fiziksel ihtiyaçları karşılamak, eğitim ve bilgilendirmeyi arttırmak, gelecekle ilgili acil eylem planları hazırlamak
	Çalışan haklarının iyileştirilmesi	Psikososyal destek ihtiyaçlarını karşılamak, çalışma saatlerini azaltmak, maddi ve finansal desteği arttırmak

alamıyorsunuz, nefes alamayan insanlara yardım etmeye çalışıyorsunuz." (Dr12)

"Koruyucu kıyafetlerle iş yükü arttı, fiziksel olarak yorucuydu. Koruyucu kıyafetin içerisindeyken bir şey yiyip içemezsiniz. Vardiya veya mola sürenize kadar dayanmak zorundasınız. Tuvalete bile gidemezsiniz." (Hemş8)

Tema 2: Baş Etme Stratejileri

Katılımcılar karantina döneminde duygusal değişiklikler yaşamıştır Bu durumlara karşı baş etme stratejileri geliştirdiler. Bu tema katılımcıların COVID-19 pandemisi sırasındaki kısa süreli baş etme stratejilerini içermektedir. Tema; pozitif düşünme, dikkati başka yöne çekme, kabul ve yüzleşme, koruyucu önlemleri arttırma alt temalarına ayrılmıştır. Katılımcılar, baş etme stratejisi olarak ilk sırada koruyucu önlemleri arttırmaya ilişkin ikinci sırada ise dikkati başka yöne çekmeye ilişkin yöntemleri kullandığını ifade etmiştir.

Pozitif düşünme

Bazı katılımcılar zor durum karşısında iyimser olarak, pozitif düşünerek kendilerini rahatlatmaya çalıştıklarını belirtmiştir.

"Kendime olumlu tarafları görmem gerektiğini hatırlattım. Her kötülükte olduğu gibi iyi yanını görmeye çalıştım. Her şey de bir iyilik aradım. Böylece içimde bulunduğum negatif duyguları yönetebildim." (Hemş2)

Dikkati başka yöne çekme

Birçok katılımcı, kendilerini durumdan uzaklaştırmak için film izlemek, kitap okumak, müzik dinlemek, el sanatlarıyla (kaneviçe işlemek, örgü örmek vb.) ilgilenmek gibi stratejiler kullandıklarını bildirmiştir.

"Evde olduğum sürede kendimi oyalamalıydım, zihnim rahat olmalıydı. Yeni hobilere başladım. Örneğin kaneviçe işledim. Elişi yaptım. Kendimi çok keyifli ve mutlu hissettim." (Hemş3)

"Karantina sürecindeki gerginliği azaltmalıydık. Çok fazla film izledim, müzik dinledim, resim yaptım. Bunlar beni kısa sürelide olsa rahatlattı, stresimden kurtulmaya çalıştım." (Dr14)

Kabul ve yüzleşme

Katılımcıların bazıları durumun gerçekliğini kabulleneceğini kendine hatırlatarak, söyleyerek kendi rahatlamış hissettiğini bildirmiştir.

"Durum ortada, biz hemşireyiz. Her koşulda çalışmak zorunda kalabiliriz, pandemi olsun ya da olmasın. Herkese bakmamız gerekir. Hemşire olarak üstesinden gelebiliriz." (Hemş4)

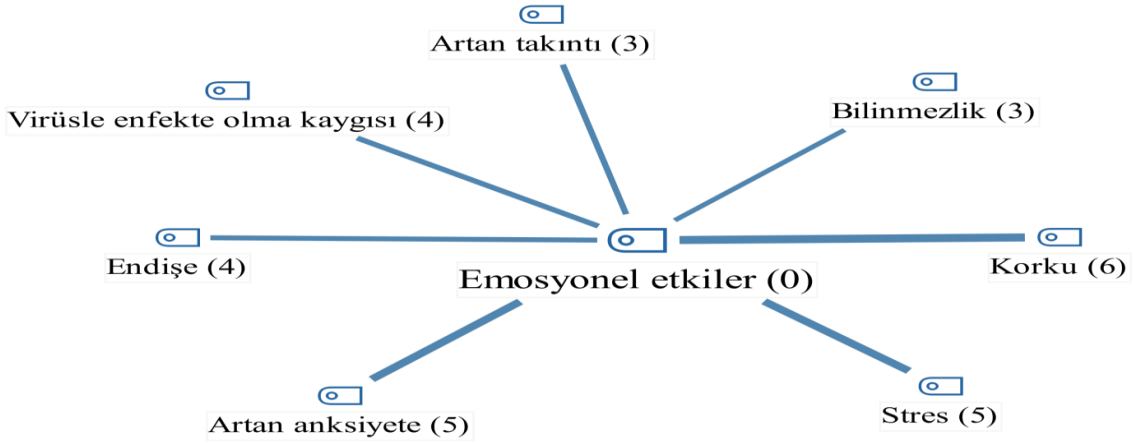
"(...) Gerçeklerden kaçamazsınız. Bu tüm dünyanın yaşadığı geçici bir süreç. Sürecin geçiciliğine inanmalısınız, bunu aşacağımıza inanıyorum ve kendimi huzurlu hissediyorum." (Hemş7)

Koruyucu önlemleri arttırma

Katılımcılardan bazıları COVID-19 ile enfekte olmamak için kişisel koruyucu önlemlerine daha çok dikkat ettiklerini bildirmiştir. Bazıları bağışıklık sistemlerini güçlendirmek için vitamin takviyeleri kullandığını, düzenli beslenmeye özen gösterdiğini ifade etmiştir. Kişisel koruyucu önlemler almak bazı katılımcıların enfekte olma anksiyetelerini hafifletmiştir.

"Evde belli alanları kirli alan yaptım. Kıyafetlerimi orada çıkartıp hemen çamaşır makinasına atıyorum. Sonra hemen duşa giriyorum. 3-4 saat kimseyle görüşmemeye dikkat ediyorum. Böylece kendimi ve yakınlarımı koruduğumu düşünüyorum." (Dr10)

"Bağışıklığımı geliştirmek için beslenmeme dikkat etmeye çalıştım. Daha fazla su içtim, vitamin takviyeleri kullandım." (Hemş5)



Şekil 1. Katılımcıların Emosyonel Etkilere İlişkin Kod Alt Kod Modeli

Tema 3: Mesleğe Bakış Açısı

Bu tema COVID-19 pandemisi sırasında katılımcıların meslekleriyle ilgili farklı duygular yaşadıklarını yansıtan ifadeleri içermektedir. Bu tema iki alt temadan oluşur; mesleki saygı ve mesleki ikilem. Pandemi sırasında katılımcıların mesleki memnuniyetleri artarken, zaman zaman bazı katılımcılar mesleki ikilemde yaşadıklarını belirtmiştir.

Mesleki saygı

Bu çalışmada katılımcıların çoğu pandemi sırasında mesleki memnuniyetlerinin arttığını, toplumun gözünde mesleklerinin itibar kazandığını bildirmiştir. Hemşire katılımcılar bu salgınla mücadelede sağlık ekibinde önemli rol oynadıklarını ve multidisipliner ekibin vazgeçilmez üyesi olduklarına inandıklarını belirtmiştir. Katılımcıların bazılarının ifadeleri şu şekildedir;

"Zorluklarla mücadele eden savaşçılar gibiydik. Kendimi savaşın önünde duran bir asker, kahraman gibi hissettim. Kendimle gurur duydum. Herkes kaçarken, sen onlara yardım ediyorsun. Kendinden vazgeçiyorsun, kahraman hemşire olarak bakıma devam ediyorsun." (Hemş2)

"Mesleğimle daha fazla gururlandığım bir dönem…Böyle bir durumda hastalara yardım edebilmek gurur verici. İnsanlar evlerinin balkonlarında, sokaklarda bizleri alkışlıyor, her yerde minnet ve sevgi belirten paylaşımlar. Gerçekten gururlandım ve kendimi özel hissettiğim anlardı." (Dr10)

Mesleki ikilem

Katılımcılardan bazıları hastalara bakım ve tedavi verirken ilk başlarda bulaş korkusu nedeniyle tereddüt ettiklerini belirtmiştir. Bazıları yeterli bakımı ve tedaviyi sağlayamayacaklarına düşündükleri için endişeli hissetmiştir. Katılımcılardan bazıları çaresizlik ve bilinmezlik yaşarken etik ikilemlerle karşı karşıya kalmışlardır.

"İlk zamanlarda kendimi yetersiz hissettim. Verdiğim bakımın etkisi olmadığını düşündüğüm zamanlar oldu. Hastalarımı kaybetmek beni çok üzdü." (Hemş3)

"Hastalara ayırdığım süre kısalmıştı. Daha az iletişim kurup, daha fazla mesafemi korumak zorundaydım. Onlarla uzun süre aynı ortamda olamazdım. Bu durum vicdanımı rahatsız ediyordu. Kendim enfeksiyon kaparsam ya hastalanırsam, aileme bulaştırırsam diye korkuyordum." (Dr13)

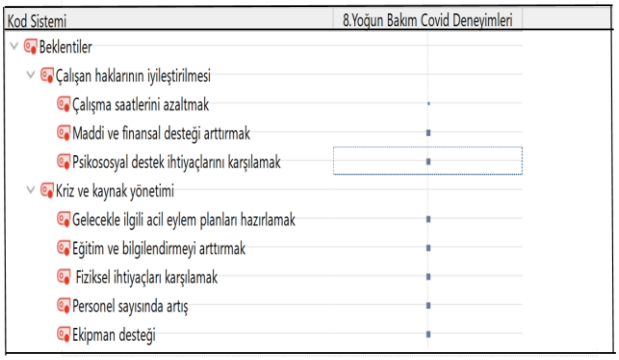
Tema 4: Beklentiler

Bu tema katılımcıların, COVID-19 pandemi süreciyle ilgili kurumsal ve organizasyonel beklentilerini, ihtiyaçlarını kapsamaktadır. Kriz ve kaynak yönetimi, çalışan haklarının iyileştirilmesi olmak üzere iki alt temaya ayrılmıştır. Katılımcıların

beklentilerine ilişkin düşüncülerinin yer aldığı yoğunluk dağılımı Şekil 2'de gösterilmiştir. Şekle göre verilen yoğunluk dağılımına göre katılımcıların kriz ve kaynak yönetimine yönelik daha çok beklenti içinde olduğu görülmektedir.

Kriz ve kaynak yönetimi

Katılımcıların bazıları COVID-19 pandemisinin ilk zamanlarında hastanedeki organizasyonel hazırlıklar, insan kaynakları yönetimi, ekipman yetersizliği gibi konularda güçlükler yaşadıklarını belirtmiştir. Bu sorunlardan bazılarının zaman içinde çözüldüğünü vurgulamışlardır.



Şekil 2. Katılımcıların Beklentilerine İlişkin Yoğunluk Dağılım Tablosu

"İlk zamanlarda her şey belirsizdi, ne yapacağımızı, hastalara nasıl yaklaşacağımızı bilmiyorduk. Eğitime ve bilgilendirilmeye ihtiyacımız vardı." (Hemş5)

"İlk zamanlarda hastanedeki organizasyonda karışıktı. Kimse ne yapacağını bilmiyordu. N95 maskemi takmalıydık, yeterli sayıda maske var mıydı? Cerrahi maskeleri yeterli olacak mıydı? Bunlar kafa karıştırıcıydı. Neyi ve nasıl yapacağımızı bilmek birkaç haftamızı aldı. Daha organize olunsa daha iyi olabilirdi." (Dr15)

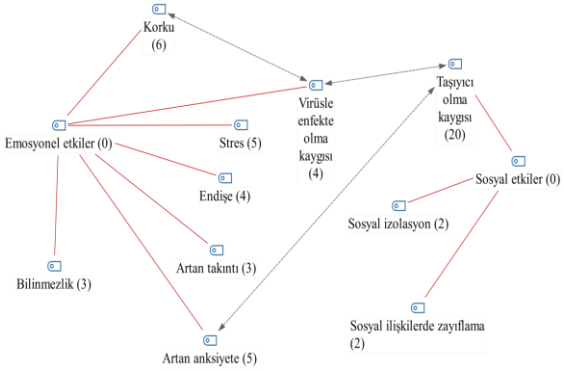
Çalışan haklarının iyileştirilmesi

Bazı katılımcılar COVID-19 pandemisi nedeniyle çalışan haklarının iyileştirilmesini, yeniden düzenlenmesi gerektiğini vurguladılar. Katılımcılardan bazıları COVID-19 gibi yaşamı tehdit eden bir hastalığın yönetiminde hemşire ve doktorların önemli bir yere sahip olduklarını ve ödüllendirilmeleri gerektiğini belirtmiştir. Katılımcılar maaş ve statü gibi çalışan haklarının iyileştirilmesine yönelik beklentileri olduğunu belirtmiştir.

"Hemşire olarak hastaların bakımında önemli rol oynuyorsunuz. Hastayla her zaman siz iletişim halindesiniz. Fakat bu göz ardı ediliyor, çok fazla önemsenmiyor. Çalışmanızın karşılığını alamıyorsunuz. Açıkçası aldığınız maaş yaptınız işin ve aldığınız riskin karşılığı değil. Hemşirelere daha fazla değer verilebilirdi." (Hemş7)

"Oldukça zor şartlar altında çalıştık...Fazla mesai yaptık ve yıprandık. Hatta bazılarımızın psikolojisi bozuldu. Bunlara karşılık maddi ve manevi bir destek görmedik. En azından maddi destek olunabilirdi." (Dr10)

Katılımcıların COVID-19 pandemisi sırasında emosyonel etkiler ile sosyal etkiler arasındaki ilişkiyi gösterir ilişki haritası Şekil 3'te verilmiştir. Şekil 3'e göre katılımcıların anksiyetelerinin artması ve korkuları kendilerini taşıyıcı olarak algılamaları ve virüsle enfekte olma kaygılarıyla ilişkilidir.



Şekil 3: Katılımcıların COVID-19 Pandemisi Sırasında Emosyonel Etkiler ile Sosyal Etkiler Arasındaki İlişki Haritası

Bu çalışmada yoğun bakım çalışanları COVID-19 hastalarına tedavi ve bakım hizmeti verirken psikolojik stresi yoğun olarak yaşadıklarını belirttiler. YBÜ çalışanları artan iş yükü, hastaların artan ciddiyeti ve eklenen iş sorumlulukları nedeniyle pandemi sürecinde çok zorlanmıştır. Çalışmada özellikle hemşireler, hastalarına kaliteli bakım verememenin suçluluk ve yetersizlik hislerini paylaşmıştır. Önceki araştırmaları sonuçları da yoğun

bakım çalışanların pandemi sürecinde benzer güçlükler yaşadıklarını ortaya koymuştur.[21, 22] COVID-19 hastalarına bakım verirken, YBÜ çalışanları endişe, korku, üzüntü, öfke ve hayal kırıklığı gibi geniş bir duygu yelpazesi paylaşmıştır. YBÜ çalışanlarının COVID-19 enfeksiyonunun kendilerine ve/veya ailelerine bulaştırma korkusu ve acılı aile üyelerinin yürek burkan son sözlerini duymada zorluk yaşama gibi deneyimler mevcut araştırma bulgularıyla uyumludur.[22, 23] YBÜ çalışanları kendilerini daha güvende hissederek, aile ve diğer sosyal çevrelerinden uzun süre virüse yakalanmadan izole olmanın ardından, sosyal mesafe kurallarına uymak suretiyle tekrar sosyalleşme dönemine geçmiştir. Ancak, diğer çalışmalarla benzer şekilde bazı aile ve arkadaşlar onlarla tekrar bir araya gelmekten çekinerek, kendilerini dışlanmış hissetmiştir.[21, 24] Bununla birlikte, Kaçkın ve arkadaşları yürüttükleri araştırmada YBÜ hemşirelerinin, toplum tarafından dışlandıklarında izole olmayı tercih ettiklerini belirtmiştir. Bu farklılığın nedeni COVID-19 bulaştırıcılık stigmasından kaynaklanıyor olabilir. Ünlü psikiyatrist Herbert Spiegel (1944), algılanan destek eksikliğinin, sıkıntılı durumlarda psikolojik travmaya neden olabileceğini belirtmiştir.[25] Hemşirelerin travmatik iş, mesleki veya iş yaşamı olaylarını deneyimleme şeklindeki farklılıkları incelemek için daha fazla araştırmaya ihtiyaç vardır.

Bireyin potansiyel tehdit etkilerini yönetmek için kullanabileceği baş etme mekanizmaları stresi etkili bir şekilde azaltmak için önemli kişisel kaynaklar olarak kabul edilmiştir.[26] Bu çalışmada YBÜ çalışanlarının, COVID-19 pandemisinin beraberinde getirdiği stresi etkili bir şekilde yönetmek için hem olumlu (örneğin, pozitif düşünce, kabul ve yüzleşme, koruyucu önlemleri arttırma) hem de olumsuz (örneğin, dikkat dağıtıcı aktiviteler kullanımı) başa çıkma stratejilerini kullandığı açıkça görülmüştür. Artarak çoğalan kanıtlar, sağlıkla ilgili veya olmayan profesyonellerin, iş çevresinden, aileden ve arkadaşlardan yeterli destekle felaketler, kazalar, afetler ve salgın hastalıklar gibi stresli ve travmatik olaylar sırasında olumlama ve pozitif düşünce gücüne sıkı sıkıya bağlandığını göstermiştir.[10, 27] Pandemi sırasında stres ve kaygının yükseldiği bir dönemde yeterli sosyal destek, sağlık çalışanlarının sağlıklı duygusal durumlarını korumalarına yardımcı olabilir. Ancak virüsle mücadele amacıyla getirilen farklı kısıtlamalar, sosyal mesafe, karantina önlemleri de dahil olmak üzere, sağlık çalışanlarının daha önce stresle etkili bir şekilde başa çıkmayı öğrendikleri aktivitelere katılmalarını engelleyebilir. Örneğin, pandemi öncesi yapılan çalışmalar, hemşireler arasında stresle başa çıkmada önemli beceriler olarak sosyal destek (arkadaşlardan, meslektaşlardan, aileden ve hatta topluluktan) ve dış mekânda yapılan dikkat dağıtıcı aktivitelerin (örneğin, açık hava egzersizi) belirlendiğini göstermiştir.[28] Ancak devam eden pandemi döneminde, bu başa çıkma stratejilerini kullanmak zordur. Bu nedenle ilişkileri desteklemek için çevrimiçi sosyal bağlantıların güçlenmesi, iletişimde yaşanan kopukluklara bir nebze su serpmiştir. Mevcut araştırma bulgularıyla benzer şekilde pandeminin zihinsel sağlık yüküyle etkili bir şekilde başa çıkmak için diğer alternatif yollar, sağlıklı ve iyimser davranışları içeren yeni bir rutin oluşturmak, egzersiz yapmak, günlük tutmak ve bir minnettarlık günlüğüne yazmak vb sıralanmıştır.[29] Covid-19 pandemisinde sağlık personelinin ruh sağlığı ve psikolojik bakım algılarını değerlendirmek amacıyla yürütülen bir diğer çalışmada, pandemi mücadelesi içinde personelin psikolojik sıkıntılar yaşadıkları ve bu sıkıntılarla baş etmek için hemşirelerin %36.3'ünün mental sağlık üzerine yazılmış kitaplar okuduğu, %50.4'ünün sosyal medyadan baş etmeyi güçlendirici aktiviteler yaptığı ve %17.5'inin profesyonel psikolojik destek aldığı belirtilmektedir.[11]

Zorlu pandemi koşulları sağlık hizmeti sunumunu hakkı ile yerine getirmeye çalışan sağlık personellerinin mesleki değerini bir kez daha ortaya koymuştur. Araştırma sonucunda sağlık çalışanları kendini daha özel ve mesleki anlamda değerli hissetmiştir. Benzer şekilde bir başka çalışmada pandemi döneminde çalışmaktan memnun olan ve bu dönemde çalışmaktan dolayı kendini özel hisseden hemşirelerin mesleğe yönelik imaj

algılarının daha olumlu olduğu saptanmıştır.[30] Bu durum sağlık profesyonellerinin pandemi gibi olağandışı süreçlerde desteklenmelerinin mesleki saygıyı etkileyen önemli faktörlerden biri olduğunu göstermektedir. COVID-19 salgınının beraberinde getirdiği bakım sağlama konusundaki yetersizlikler ve kaynakların kısıtlılığı göz önüne alındığında, özellikle yoğun bakım ünitelerinde yatak kapasitesinin ve solunum destek cihazlarının adil dağıtımı konularında etik ikilem yaşamıştır. Temel olarak en çok etik ikilem acil durumlarda karar almada tutarlılığı sağlamak, otonomi ve sağlık profesyonellerinin yasal yükümlülükleri ile adalet, eşitlik, yarar verme, zarar vermeme gibi konularda meydana gelmiştir. Pandemi sürecinde yapılan etik ikileme dair önceki çalışmalar araştırma sonucumuzla uyumludur.[22, 31-32] YBÜ'nde görev yapan sağlık profesyonellerinin etik ikilemlerde doğru karar verici noktada olmaları için yönlendirici etik rehberlere ihtiyaçları vardır.[33]

YBÜ çalışanları personel sayısında artış, fiziksel ihtiyaçları karşılamak, eğitim ve bilgilendirmeyi arttırmak, gelecekle ilgili acil eylem planları hazırlamak, psikososyal destek, maddi ve finansal desteği arttırma gibi çalışan haklarının iyileştirilmesi hususunda beklentilerini dile getirmiştir. Yapılan literatür taramasında, COVİD-19 ile mücadele kapsamında görev yapan sağlık personelinin hastalıkla enfekte olmasının engellenmesi için kişisel ve koruyucu ekipman kullanımının ve gerekli malzeme tedariğinin sağlanması, sağlık çalışanlarının bu süreçte psikolojik ve davranışsal yönden desteklenerek motive edilmesi gibi konularda çalışmaların yapıldığı görülürken, sağlık çalışanlarının salgınla mücadele sürecinde maddi açıdan desteklenerek performanslarının artırılmasına yönelik ulusal çapta bir araştırmaya rastlanılmıştır.[34-36] Ülkemizde pandemi sürecinde Dünya Sağlık Örgütü Ruh Sağlığı Programı çerçevesinde Sağlık Bakanlığı tarafından Ruh Sağlığı Daire Başkanlığı ile ortak çalışma yürüterek Psikososyal Destek Hattı Çalışma Rehberi oluşturulmuştur. Sağlık çalışanlarının herhangi bir maddi kayba uğramalarının önlenmesi, motive ve teşvik edilmesi amacıyla, 24/03/2020 tarihli ve 31078 sayılı Resmî Gazete ile gerek Sağlık Bakanlığı'na bağlı sağlık tesislerinde ve gerekse üniversite hastanelerinde görevli personele, ek ödeme yapılmasına karar verilmiştir.[37]

SONUÇ VE ÖNERİLER

Yoğun bakım sağlık çalışanlarının COVID-19 pandemi sürecindeki psikolojik durumları hakkında ayrıntılı bir inceleme ile bu psikolojik durumların nasıl korunabileceği ve sürdürülebileceği de önemli bir konuyu gündeme getirmektedir. Bu çalışmanın sonuçları yoğun bakım çalışanlarının pandemi sürecinde hem yaşadıkları güçlükleri, eksik noktaları hem de güçlü yönleri ortaya çıkardı. Tedavi ve bakım hizmetleri sağlık çalışanlarının yaşadığı yoğun stres ve korkudan, ayrıca çalışma koşullarından etkilenmiştir. Olağanüstü durumlara karşı yoğun bakım çalışanlarının hazırlanması, maddi kaynakların yönetilmesi tedavi ve bakım hizmetlerindeki kaliteyi geliştirerek hasta ve aileleri için katkı sağlayacaktır. Pandemi gibi olağanüstü durumlarda vurgulanan zayıf yönleri iyileştirmek için güçlendirme ve eğitim odaklı çalışmalara ihtiyaç vardır.

KAYNAKLAR

1. Lacroix, V. (2012). "All About Pandemics: Epidemic of Infectious Disease". Delhi: University Publications.
2. Kelly, J. (2006). "The Great Mortality. An Intimate History of the Black Death, the Most Devastating Plague of All Time". London-New York: Harper Perennial.
3. Labrague, L.J. and De los Santos, J.A.A. (2020). "COVID-19 Anxiety Among Front-Line Nurses: Predictive Role of Organizational Support, Personal Resilience and Social Support". Journal of Nursing Management, 28 (7), 1653–1661. https://doi.org/10.1111/jonm.13121

4. Biber, J, Ranes, B, Lawrence, S, Malpani, V, Trinh, T.T, Cyders, A, English, S, Staub, C.L, McCausland, K.L, Kosinski, M. and Baranwal, N. (2022). "Mental Health Impact on Healthcare Workers Due to the COVID-19 Pandemic: A US Cross-Sectional Survey Study". Journal of Patient-Reported Outcomes, 6 (1), 1-14. https://doi.org/10.1186/s41687-022-00467-6
5. Shechter, A, Diaz, F, Moise, N, Anstey, D.E, Ye, S, Agarwal, S, Birk, J.L, Brodie, D, Cannone, D.E, Chang, B. and Claassen, J. (2020). "Psychological Distress, Coping Behaviors, and Preferences for Support Among New York Healthcare Workers During the COVID-19 Pandemic". General Hospital Psychiatry, 66 (1), 1-8. https://doi.org/10.1016/j.genhosppsych.2020.06.007
6. Chew, Q.H, Chia, F.A, Ng, W.K, Lee, W.C.I, Tan, P.L.L, Wong, C.S, Puah, S.H, Shelat, V.G, Seah, E.J, Huey, C.W.T, Phua, E.J. and Sim, K. (2020). "Perceived Stress, Stigma, Traumatic Stress Levels and Coping Responses Among st Residents in Training Across Multiple Specialties During COVID-19 Pandemic—a Longitudinal Study". International Journal of Environmental Research and Public Health, 17 (18), 6572. https://doi.org/10.3390/ijerph17186572
7. Shen, X, Zou, X, Zhong, X, Yan, J and Li, L. (2020). "Psychological Stress of ICU Nurses in the Time of COVID-19". Critical Care, 24, 1-3. https://doi.org/10.1186/s13054-020-02926-2
8. Yifan, T, Ying, L, Chunhong, G, Jing, S, Rong, W, Zhenyu, L, Zejuan, G. and Peihung, L. (2020). "Symptom Cluster of ICU Nurses Treating COVID-19 Pneumonia Patients in Wuhan, China". Journal of Pain Symptom Management, 60 (1), 48–53. https://doi.org/10.1016/j.jpainsymman.2020.03.039
9. Liu, S, Yang, L, Zhang, C, Xiang, Y.T, Liu, Z, Hu, S. and Zhang, B. (2020). "Online Mental Health Services in China During the COVID-19 Outbreak". The Lancet Psychiatry, 7 (4), 17-18. https://doi.org/10.1016/S2215-0366(20)30077-8
10. Baduge, M.S.P, Morphet, J. and Moss, C. (2018). "Emergency Nurses' and Department Preparedness for an Ebola Outbreak: A (narrative) Literature Review". International Emergency Nursing, 38, 41–49. https://doi.org/10.1016/j.ienj.2017.12.002
11. Kang, L, Ma, S, Chen, M, Yang, J, Wang, Y, Li, R, Yao, L, Bai, H, Cai, Z, Yang, B. X. and Hu, S. (2020). "Impact on Mental Health and Perceptions of Psychological Care Among Medical and Nursing Staff in Wuhan During the 2019 Novel Coronavirus Disease Outbreak: A cross-sectional study". Brain, Behavior, and Immunity, 87, 11-17. https://doi.org/10.1016/j.bbi.2020.03.028
12. Jafarzadeh-Kenarsari, F, Ghahiri, A, Zargham-Boroujeni, A. and Habibi, M. (2015). "Exploration of the Counseling Needs of Infertile Couples: A Qualitative Study". Iranian Journal of Nursing and Midwifery Research, 20 (5), 552. https://doi.org/10.4103/1735-9066.164506
13. Creswell, J.W. and Poth, C.N. (2016). "Qualitative Inquiry and Research Design: Choosing among Five Approaches". Thousand Oaks-London-New Delhi: Sage Publications.
14. Saunders, B, Sim, J, Kingstone, T, Baker, S, Waterfield, J, Bartlam, B, Burroughs, H. and Jinks, C. (2018). "Saturation in Qualitative Research: Exploring its Conceptualization and Operationalization". Quality and Quantity, 52, 1893-1907. https://doi.org/10.1007/s11135-017-0574-8
15. Marshall, C. and Rossman, G.B. (2014). "Designing Qualitative Research". London: Sage Publications.
16. Xiang, Y.T, Yang, Y, Li, W, Zhang, L, Zhang, Q, Cheung, T. and Ng, C.H. (2020). "Timely Mental Health Care for the 2019 Novel Coronavirus Outbreak is Urgently Needed". The Lancet Psychiatry, 7 (3), 228-229. https://doi.org/10.1016/S2215-0366(20)30046-8
17. Colaizzi, P.F. (1978). "Psychological Research as the Phenomenologist Views It". New York: Oxford University Press.
18. Lincoln, Y.S. and Guba E.G. (1985). "Naturalistic Inquiry". Thousand Oaks: Sage Publications. https://doi.org/10.1016/0147-1767(85)90062-8
19. Başkale, H. (2016). "Nitel Araştırmalarda Geçerlik, Güvenirlik ve Örneklem Büyüklüğünün Belirlenmesi". Dokuz Eylül Üniversitesi Hemşirelik Fakültesi Elektronik Dergisi, 9 (1), 23-28.
20. Raskind, I.G, Shelton, R.C, Comeau, D.L, Cooper, H.L, Griffith, D.M. and Kegler, M.C. (2019). "A Review of Qualitative Data Analysis Practices in Health Education and Health Behavior Research". Health Education and Behavior, 46 (1), 32-39. https://doi.org/10.1177/1090198118795019
21. Crowe, S, Howard, A.F, Vanderspank-Wright, B, Gillis, P, McLeod, F, Penner, C. and Haljan, G. (2021). "The Effect of COVID-19 Pandemic on the Mental Health of Canadian Critical Care Nurses Providing Patient Care During the Early Phase Pandemic: A Mixed Method Study". Intensive and Critical Care Nursing, 63, 102999. https://doi.org/10.1016/j.iccn.2020.102999
22. Galehdar, N, Toulabi, T, Kamran, A. and Heydari, H. (2021). "Exploring Nurses' Perception of Taking Care of Patients with Coronavirus Disease (COVID-19): A Qualitative Study". Nursing Open, 8 (1), 171–179. https://doi.org/10.1002/nop2.616
23. LoGiudice, J.A, Bartos, S. (2021). "Experiences of Nurses During the COVID-19 Pandemic: A Mixed-Methods Study". AACN Advanced Critical Care, 32 (1), 14–26. https://doi.org/10.4037/aacnacc2021816
24. Kackin, O, Ciydem, E, Aci, O.S. and Kutlu, F.Y. (2021). Experiences and Psychosocial Problems of Nurses Caring for Patients Diagnosed with COVID-19 in Turkey: A Qualitative Study". International Journal of Social Psychiatry, 67 (2), 158-167. https://doi.org/10.1177/0020764020942788
25. Spiegel, H.X. (1944). "Preventive Psychiatry with Combat Troops". American Journal of Psychiatry, 101 (3), 310–315. https://doi.org/10.1176/ajp.101.3.310
26. Lazarus, R.S, Folkman, S. (1987). "Transactional Theory and Research on Emotions and Coping". European Journal of Personality, 1 (3), 141–169. https://doi.org/10.1002/per.2410010304
27. Labrague, L.J, Hammad, K, Gloe, D.S., McEnroe-Petitte, D.M, Fronda, D.C, Obeidat, A.A, Leocadio, M.C, Cayaban, A.R. and Mirafuentes, E.C. (2018). "Disaster Preparedness Among Nurses: A Systematic Review of Literature". International Nursing Review, 65 (1), 41–53. https://doi.org/10.1111/inr.12369
28. Ha, D.G. and Sung, M.H. (2018). "Impact of Job Stress, Coping Behavior, Hardiness on Burnout in Nurses in the Emergency Department". Korean Journal of Occupational Health Nursing, 27 (4), 215–223.
29. Huang, L, Wang, Y, Liu, J, Ye, P, Cheng, B, Xu, H, Qu, H. and Ning, G. (2020). "Factors Associated with Resilience Among Medical Staff in Radiology Departments During the Outbreak of 2019 Novel Coronavirus Disease (COVID-19): A Cross-Sectional Study". Medical Science Monitor, 26, e925669-1. https://doi.org/10.12659/MSM.925669
30. Karadeniz, H, Durmuş, A, Gündüz, C.S, Bilgiç, G. ve Gürkan, Ö.C. (2022). "COVID-19 Pandemisinin Hemşirelerin Mesleki İmaj Algısına Etkisi". Balıkesir Sağlık Bilimleri Dergisi, 11 (2), 255-261. https://doi.org/10.53424/balikesirsbd.1022453
31. Jia, Y, Chen, O, Xiao, Z, Xiao, J, Bian, J. and Jia, H. (2021). "Nurses' Ethical Challenges Caring for People with COVID-19: A Qualitative Study". Nursing Ethics, 28 (1), 33–45. https://doi.org/10.1177/0969733020944453
32. Sperling, D. (2021). "Ethical Dilemmas, Perceived Risk, and Motivation Among Nurses During the COVID-19 Pandemic". Nursing Ethics, 28 (1), 9-22. https://doi.org/10.1177/0969733020956376
33. Leider, J.P, DeBruin, D, Reynolds, N, Koch, A. and Seaberg, J. (2017). "Ethical Guidance for Disaster Response, Specifically Around Crisis Standards of Care: A Systematic Review". American Journal of Public Health, 107 (9), 1-9. https://doi.org/10.2105/AJPH.2017.303882
34. Greenberg, N, Docherty, M, Gnanapragasam, S. and Wessely, S. (2020). "Managing Mental Health Challenges Faced by Healthcare Workers During COVID-19 Pandemic". British Medical Journal, Mar 26, 368. https://doi.org/10.1136/bmj.m1211
35. Park, S.H. (2020). "Personal Protective Equipment for Healthcare Workers During the COVID-19 Pandemic". Infection & Chemotherapy, 52 (2), 165–182. https://doi.org/10.3947/ic.2020.52.2.165
36. Arık, Ö. ve Aydoğdu, A. (2021). "Sağlık Bakanlığı Tarafından Yapılan COVID-19 Ek Ödemesi Hakkında Sağlık Personeli Görüşlerinin İncelenmesi." Journal of Academic Value Studies, 7 (3), 231-242. https://doi.org/10.29228/javs.52433

37. T.C. Sağlık Bakanlığı. (2020). "COVID-19 Pandemisi Nedeniyle Sağlık Tesislerinde Ek Ödeme Yapılmasına İlişkin Usul ve Esaslar". Erişim adresi: https://khgmekodemedb.saglik.gov.tr/Eklenti/37085/0/covid-19-pandemisi-nedeniyle-ek- odeme-usul-ve esaslaripdf.pdf?_tag1=5B606BDBE7C1C9B547350A7B2FF7340A5826118D. (Erişim Tarihi:23/08/2023).

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COVID-19 Pandemisinde Hemşirelerin Aile Destek Düzeylerinin İşten Ayrılma Niyetleri Üzerindeki Etkisi: Kesitsel Bir Çalışma

The Effect of Nurses' Family Support Levels on Their Intentions to Leave Work During the COVID-19 Pandemic: A Cross-Sectional Study

Seçil DURAN YILMAZ[1], İsa ÇELİK[2], Büşra Ceren DEMİREL YILDIZ[3], Murat BEKTAŞ[4]

ÖZ

Koronavirüs hastalığı 2019 (COVID-19), tüm dünyayı etkilemiştir. Hemşireler COVID-19 ile mücadelede en ön safta yer almıştır. Bu süreçte hemşirelerin iş yükü artmış ve çalışma şartları olumsuz etkilenmiştir. Bu durumda hemşirelerin destek kaynakları daha önemli hale gelmiştir. Bu araştırmanın amacı, COVID-19 sürecinde Türkiye'deki hemşirelerin aile destek düzeylerinin işten ayrılma niyetleri üzerindeki etkisini incelemektir. Kesitsel türde tasarlanan bu çalışmanın evrenini Türkiye'de iki ilde görev yapan hemşireler oluşturmuştur. Veriler, 15 Şubat – 15 Mart 2021 tarihleri arasında, etik kurul onayı ve kurum izinleri alındıktan sonra online olarak toplanmıştır. Veri toplama aracı olarak "Hemşirelerin Sosyodemografik ve Tanıtıcı Özellikleri", ve araştırmacılar tarafından oluşturulan "Algılanan Aile Desteği Anketi" kullanılmıştır. Hemşirelerin aile destek düzeylerinin işten ayrılma niyetleri üzerindeki etkisi lojistik regresyon analizi ile incelenmiştir. Araştırmaya %83'ü (n = 370) kadın olan toplam 446 hemşire katılmıştır. Yaş ortalamaları 30,22 ± 6,30'yıldı. Hemşirelerin %36,8'i (n=164) COVID-19 hastalığını geçirdiğini belirtmiştir. Hemşirelerin aile destek düzeyleri işten ayrılma niyetlerindeki varyansın %8,7'sini (Nagelkerke R^2) açıklamıştır. Artan aile destek düzeyi işten ayrılma niyetinin azalması ile ilişkili bulunmuştur. Yaşanılan bu zorlu pandemi sürecinde hemşirelerin aile destekleri oldukça önemlidir.

Anahtar Kelimeler: Aile Desteği, COVID-19, Hemşire, İşten Ayrılma Niyeti

ABSTRACT

Coronavirus disease 2019 (COVID-19) has affected the whole world. Nurses have been on the front lines of the fight against COVID-19. In this process, nurses' workload increased and working conditions were negatively affected. In this case, nurses' support resources have become more important. The purpose of this research is to examine the effect of family support levels of nurses in Turkey on their intention to leave during the COVID-19 period. The population of this cross-sectional study was composed of nurses working in two provinces in Turkey. The data was collected online between February 15 and March 15, 2021, after ethics committee approval and institutional permissions were obtained. "Sociodemographic and Introductory Characteristics of Nurses" and "Perceived Family Support Survey" created by the researchers were used as data collection tools. The effect of nurses' family support levels on their intention to leave work was examined with logistic regression analysis. A total of 446 nurses, 83% of whom (n = 370) were women, participated in the study. The mean age was 30.22 ± 6.30 years. 36.8% (n=164) of nurses stated that they had COVID-19 disease. Nurses' family support levels explained 8.7% (Nagelkerke R2) of the variance in their intention to leave. Increasing family support level was found to be associated with decreased intention to leave work. Family support of nurses is very important during this difficult pandemic process.

Keywords: Family Support, COVID-19, Nurse, Intention to Leave Job

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[1] Öğr. Gör. Seçil DURAN YILMAZ, Halk Sağlığı Hemşireliği, Karamanoğlu Mehmetbey Üniversitesi, Sağlık Hizmetleri Meslek Yüksekokulu, Sağlık ve Bakım Hizmetleri Bölümü, e-posta: secilduran@kmu.edu.tr ORCID: 0000-0003-1135-0762
[2] Araş. Gör. Dr. İsa ÇELİK, Çocuk Sağlığı ve Hastalıkları Hemşireliği, Recep Tayyip Erdoğan Üniversitesi, Sağlık Bilimleri Fakültesi, Hemşirelik Bölümü, e-posta: isa.celik@erdogan.edu.tr ORCID: 0000-0003-3381-2286
[3] Öğr. Gör. Dr. Büşra Ceren DEMİREL YILDIZ, İç Hastalıkları Hemşireliği, Siirt Üniversitesi, Sağlık Hizmetleri Meslek Yüksekokulu, Tıbbi Hizmetler ve Teknikler Bölümü, e-posta: busraceren58@gmail.com ORCID: 0000-0003-4971-9115
[4] Prof. Dr. Murat BEKTAŞ, Çocuk Sağlığı ve Hastalıkları Hemşireliği, Dokuz Eylül Üniversitesi, Hemşirelik Fakültesi, Hemşirelik Bölümü, e-posta: murat.bektas@deu.edu.tr ORCID: 0000-0003-3327-8204

İletişim / Corresponding Author: Seçil DURAN YILMAZ
e-posta/e-mail: secilduran@kmu.edu.tr

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GİRİŞ

Çin'in Wuhan şehrinde 31 Aralık 2019 'da ortaya çıkan koronavirüs ailesinden COVID-19, Türkiye'nin de dahil olduğu 200'den fazla ülkeye yayılarak tüm dünyayı etkileyen bir salgın haline gelmiştir.[1] Bu salgın sürecinde sağlık profesyonellerine daha fazla ihtiyaç duyulmuştur. Sağlık profesyonelleri içerisinde önemli bir yere sahip olan ve dünya çapında yirmi milyondan fazla en büyük sağlık profesyoneli kategorisinde olan hemşireler, COVID-19 önleme ve müdahale çabalarının merkezinde yer almaktadır.[2] Bu dönemde giderek büyüyen küresel sağlık sorunu ile hemşirelerin önemi daha da artmıştır. Çünkü COVID-19 hastalarının bakımının yürütülmesi, sağlık eğitimi, sağlık yönetimi, öğretim ve araştırma faaliyetleri gibi birçok rolde yer alan hemşireler, bu süreçte sahanın en başında yer almıştır.[3,4]

Tüm dünyayı sosyal, psikolojik, ekonomik yönde olumsuz etkileyen bu durum sağlık sisteminin merkezinde olan hemşireleri de olumsuz yönde etkilemiştir. Hemşire yetersizliği uluslararası bir sorundur.[5] Sağlık profesyonelleri arasında en fazla işten ayrılma niyeti olan grup hemşirelerdir.[6] İşten ayrılma niyeti, çalışılan birimden belirli bir zaman içerisinde bilinçli ve gönüllü olarak ayrılma arzusudur.[7] Dünya Sağlık Örgütü (WHO), Uluslararası Hemşireler Konseyi (ICN) ve Nursing Now ile ortaklaşa hazırladıkları raporda, dünya çapında 28 milyondan az hemşire olduğu belirtilmiştir. Hemşire sayısında 5,9 milyonluk küresel bir açık bulunmaktadır. Bu açık Afrika, Güney Doğu Asya ve Doğu Akdeniz bölgesindeki ülkelerde ve Latin Amerika'nın bazı bölgelerinde daha fazladır.[8] Hemşirelerin kurumlarından ya da mesleklerinden ayrılmalarına sebep olan faktörler arasında iş sorumlulukları nedeniyle iş ve aile arasındaki rollerini dengelemede zorluk yaşamaları gelmektedir.[9] Sağlık hizmeti veren grup içerisinde hemşirelerin zorlu rolleri iş ve aile arasındaki dengeyi sağlamayı daha da zorlaştırmış ve işten ayrılmalarına neden olmuştur.[6] Hemşirelerin hem aile içerisinde hem de işyerinde sorumlulukları bulunmaktadır. Bu ikisi arasında denge kurmaya çalışmaktadırlar.[10] Fiziksel ve duygusal iş yükü, yorucu vardiyalar, haftalık uzun çalışma saatleri, stres, yetersiz ücret ve yoğun hasta katılımı gibi işin zorlu koşulları sebebiyle hemşirelerin iş-aile çatışması yaşamaları kaçınılmaz bir durumdur.[11] İş-aile çatışması, "iş ve aile arasındaki sorumluluklarının karşılıklı uyumsuzluğu ve iş yerinden ve aile alanlarından gelen rol baskıları, böylece bir role katılımın diğerine katılmayı zorlaştırdığı bir roller arası çatışma biçimi" olarak tanımlanmıştır.[12]

İş ve aile arasındaki çatışmayı azaltma da sosyal destek faktörleri önemlidir. Sosyal destek faktörleri içerisinde aile desteği önemli bir unsurdur.[10] Aile desteği, aile ortamından algılanan destek duygusudur. Pandemi sürecinde hemşirelerin yaşamış oldukları tükenmişlik duygusu, yetersiz iş doyumu, artmış iş yükü, kurum yöneticileri tarafından desteklenmemesi, sosyal arkadaşlarının COVID-19 bulaşma korkusu nedeniyle kendilerinden uzaklaşmaları aile desteğinin önemini daha da arttırmıştır.[13] Bu çalışmanın amacı, COVID-19 salgını sırasında hemşirelerin aile destek düzeylerini değerlendirmek ve aile desteğinin işten ayrılma niyetleri üzerindeki etkisini incelemektir.

MATERYAL VE METOT

Araştırmanın Tipi

Bu araştırma kesitsel bir tasarıma sahiptir.

Araştırmanın Yeri ve Zamanı

Türkiye'nin doğusunda Siirt ve Gümüşhane illerinde bulunan hastanelerde 15 Şubat 2021 – 15 Mart 2021 tarihler arasında gerçekleştirilmiştir.

Araştırmanın Evreni ve Örneklemi

Araştırmanın evrenini Türkiye'nin doğusundaki iki ilde bulunan hastanelerde görev yapan 900 hemşire oluşturmuştur. Araştırmanın örneklem sayısı G*Power 3.1.9.6 programı kullanılarak hesaplanmıştır. Yapılan hesaplamada lojistik regresyon (Binary Logistic Regression) analizi için örneklem sayısı 208 olarak bulunmuştur. Veri toplama sürecinde en az 208 hemşireye ulaşılması hedeflenmiştir.[14,15] Araştırmada 446 hemşireye ulaşılmıştır.

Veri Toplama Araçları

Hemşirelerin Sosyodemografik Özellikleri

Yaş, cinsiyet, eğitim seviyesi, medeni durum, çocuk sayısı ve kimle yaşadığı gibi sorular sosyodemografik veriler arasında bulunmaktadır.

Hemşirelerin Tanıtıcı Özellikleri

Çalışma yılı, aylık yapılan fazla mesai, aylık tutulan gece nöbeti sayısı, COVID-19 geçirme durumu, COVID-19 servisinde çalışma durumu, pandemi sürecinde ruhsal ve fiziksel durum, mesleki doyum düzeyi, mesleği bırakma düşüncesi gibi sorular klinik özellikler arasında bulunmaktadır. Pandemi sürecinde ruhsal ve fiziksel durum ve mesleki doyum düzeyi soruları 3'lü likert (düşük, orta, yüksek) türüne göre hazırlanmıştır.

Algılanan Aile Desteği Anketi

Hemşireler İçin Pandemi Sürecinde Algılanan Aile Desteği Anket Formu araştırmacılar tarafından ilgili literatür taranarak bir anket (Tablo 1) oluşturulmuştur.[6,16,17,18] Anket formunda ev işlerine yardımcı olma, manevi destek, aile dayanışması gibi durumları değerlendiren 12 soru bulunmaktadır. Her soru 5'li likert (1 = Kesinlikle katılmıyorum – 5= Kesinlikle katılıyorum) türüne göre hazırlanmıştır. Anket toplam 12 sorudan oluşmaktadır. Ankette 2., 7., 8., 9., 11. Sorular ters puanlanmaktadır. Anketten minimum 12 maksimum 60 puan alınmaktadır. Anketten alınan puan arttıkça aile desteği düzeyi de yükselmektedir. Oluşturulan anket için hemşirelik alanında çalışan üç öğretim üyesinden ve 10 yıldan fazla deneyimi olan 2 hemşireden uzman görüşü alınmıştır. Uzmanlar her soruya 1-4 (1=Çok değişiklik gerekiyor (önerdiğim gibi) 2=Az değişiklik gerekiyor (önerdiğim gibi) 3=Uygun 4=Çok uygun) puan vermiştir. Uzmanların görüşlerinin değerlendirmesinde kapsam geçerlilik indeksi kullanılmış, madde bazında kapsam geçerlilik indeksi 0.92-1.00 arasında değiştiği, anket bazında kapsam geçerlilik indeksinin 0.95 olduğu saptanmıştır. Hem madde bazında hem de anket bazında kapsam geçerlilik indeksinin 0.80'in üzerinde olması istenmektedir.[19] Uzmanların görüş birliğine vardığı anket ön uygulama için seçilen örneklem ile aynı özelliklere sahip 30 kişilik bir gruba uygulanmıştır. Bu uygulama sonrası anketin anlaşılırlığı ile ilgili herhangi bir olumsuz geri dönüş olmamıştır. Pilot uygulama sonrası anketin güvenirliği Cronbach alfa güvenirlik katsayısı ile değerlendirilmiş ve cronbach alfa değeri 0.82 olarak bulunmuştur. Literatürde uygulanacak ölçeklerin cronbach alfa değerlerinin 0.70'in üzerinde olması önerilmektedir.[20]

Tablo 1. Algılanan Aile Desteği Anketi

Sorular	Seçenekler
Hemşireler İçin Pandemi Sürecinde Algılanan Aile Desteği	1-Kesinlikle Katılmıyorum 5-Kesinlikle Katılıyorum
1.COVID-19 pandemisinde ailem ev işlerinde (alışveriş, yemek, temizlik, çamaşır vb.) bana yardımcı oldu.	
2.COVID-19 pandemisinde ailem işimi bırakmamı istedi	
3.COVID-19 pandemisinde ailem manevi olarak destek oldu	
4.COVID-19 pandemisinde işte yaşadığım sorunları ailemle rahatlıkla paylaştım	
5.COVID-19 pandemisinde yaşadığım sıkıntıları ailem anlayışla karşıladı	
6.COVID-19 pandemisinde yaşadığım sorunların çözümünde ailem bana yardımcı oldu	
7.COVID-19 pandemisinde daha anlayışı bir ailem olmasını isterdim	
8.COVID-19 pandemisinde ailem beni yalnız bıraktı	
9.COVID-19 pandemisinde ailemle aile ilişkilerim olumsuz etkilendi	
10.COVID-19 pandemisinde ailemle dayanışma içerisindeydik	
11.COVID-19 pandemisinde kendimi yalnız hissettim	
12.COVID-19 pandemisinde ailem çalışma motivasyonumu artırdı	

Veri Toplama Süreci

Tüm hemşireler 15 Şubat 2021'den 15 Mart 2021'e kadar anketleri doldurmaya davet edilmiştir. Hemşirelere çevrimiçi anket formu whatsapp, ınstagram ve facebook gibi sosyal medya hesaplarından gönderilmiştir. Toplam 446 hemşireye ulaşılmıştır.

Veri Analizi

Araştırma verileri SPSS 26.0 (Statistical Package for the Social Sciences) programı kullanılarak analiz edilmiştir. Tanımlayıcı verilerin değerlendirilmesinde frekans, yüzde, ortalama ve standart sapma değerleri hesaplanmıştır. Verilerin normal dağılımı Shapiro Wilks testi ile kontrol edilmiştir. Hemşirelerin tanıtıcı özelliklerine göre aile desteği puan ortalamalarının karşılaştırılması bağımsız gruplarda t testi ve ANOVA ile incelenmiştir. ANOVA analizinde farkın hangi gruplar arasında olduğunu belirlemek için Bonferroni Post-Hoc analizi yapılmıştır. Hemşirelerin aile destek düzeylerinin işten ayrılma niyetleri üzerindeki etkisi lojistik regresyon analizi ile incelenmiştir. Lojistik regresyon analizinden önce çoklu bağlantı ve veri normalliği kontrol edilmiştir. Analizlerde anlamlılık düzeyi $p<0.05$ olarak kabul edilmiştir.

Araştırmanın Etik Yönü

Gümüşhane Üniversitesi Bilimsel Araştırma ve Yayın Etiği Kurulu'ndan 2020/12 karar sayı numarası ile etik kurul izni alınmıştır. Sağlık Bakanlığından 2020-12-11T22_22_27 sayı numarası ile izin alınmıştır. Anketin ilk bölümü esas olarak bilgilendirilmiş onayı içermektedir, hemşireler önce bilgilendirilmiş onayı okuyacaklar, çalışmaya katılmayı kabul ederlerse aşağıdaki anketi tamamlamak için "Kabul ediyorum" seçeneğine tıklayacaklardır. Hemşirelere verdikleri bilgilerin gizli tutulacağı ve başka bir yerde kullanılmayacağı açıklanmıştır.

Araştırmanın Kısıtlılıkları

Çalışmanın değerlendirilmesi sınırlılıkları kapsamında yapılmalıdır. Çalışma, COVID-19 kliniğinde Türkiye'deki 2 ilde çalışan hemşireleri içermektedir. Dolayısı ile sonuçlarımız tüm Türkiye'de COVID-19 kliniğinde çalışan hemşireleri kapsamamaktadır. Ayrıca araştırma verileri pandemi koşullarında sosyal mesafeyi korumak adına çevrimiçi olarak toplanmıştır. Bu sebeple araştırmada toplanan veriler internet ulaşımı olan ve bilgisayar kullanmayı bilen kişilerle sınırlıdır. Bununla birlikte kesitsel tipte olan bu çalışma Şubat-Mart 2021 tarihleri arasında yapılmıştır. Yani pandeminin ikinci yılını ve belirli bir zaman dilimini kapsamaktadır.

Aile desteği önemli bir kavramdır. Anketin araştırmacılar tarafından geliştirilmiş olması araştırmanın kısıtlılıkları arasındadır. Bu sebepten dolayı daha ayırıcı soruların yer alması, geçerliliği ve güvenilirliği daha büyük örneklemlerde ve farklı kültürlerde sağlanmış olan ölçüm araçlarının geliştirilmesi ve kullanılması aile desteği ile ilgili daha etkili araştırmaların yapılmasını sağlayabilir. Bizim araştırmamız aile desteği kavramı için bir temel teşkil edecektir.

BULGULAR VE TARTIŞMA

Araştırmaya %83'ü (n = 370) kadın olan toplam 446 hemşire katılmıştır. Yaş ortalamaları 30,22 ± 6,30'du. Hemşirelerin %67'si (n = 299) lisans, %16,4'ü (n = 73) lisansüstü eğitim derecesine sahiptir. Hemşirelerin %50,4'ü (n=225) bekâr, %60,8'inin (n=271) çocuğu yoktur. Hemşirelerin %67,9'u (n=303) ailesi ile yaşamaktadır. Hemşirelerin sosyodemografik özellikleri Tablo 2'de sunulmuştur.

Tablo 2. Hemşirelerin Sosyodemografik Özellikleri

Değişkenler	n	%
Cinsiyet		
Kadın	370	83,0
Erkek	76	17,0
Eğitim		
Lise	30	6,7
Ön lisans	44	9,9
Lisans	299	67,0
Lisansüstü	73	16,4
Medeni Durum		
Evli	221	49,6
Bekar	225	50,4

Tablo 2. (Devamı)		
Çocuk		
Var	175	39,2
Yok	271	60,8
Kimle Yaşadığı		
Aile	303	67,9
Arkadaş	42	9,4
Yalnız	101	22,6
Yaş (yıl)	**Ort±SS**	**Min-Max**
	30,22±6,30	22-55

Ort±SS: Ortalama±Standart Sapma, Min: Minimum, Max: Maximum

Hemşirelerin çalışma yılı ortalamaları (7,86±6,86), aylık yaptıkları fazla mesai ortalamaları (38,13±34,67), aylık tuttukları gece nöbeti sayısı ortalamaları (7,07±3,98). Hemşirelerin %89,5'i COVID-19 servisinde çalışmadığını, %36,8'i (n=164) COVID-19 hastalığını geçirdiğini belirtmiştir. Hemşirelerin %91,9'u (n=410) ailesine virüs bulaştırma korkusu olmadığını, %57,2'sinin ailesi kendisinden virüs kapmaktan korkmadığını ifade etmiştir. Hemşirelerin pandemi sürecinde %58,5'i (n=261) ruhsal durum düzeyinin, %50,9'u (n=227) fiziksel durum düzeyinin düşük seviyede olduğunu belirtmiştir. Hemşirelerin pandemi sürecinde %40,6'sı (n=181) mesleği bırakma düşüncesinde olduklarını ifade etmişlerdir (Tablo 3).

Tablo 3. Hemşirelerin Tanıtıcı Özellikleri

Değişkenler	N	%
COVID-19 hastalığı geçirme durumu		
Evet	164	36,8
Hayır	282	63,2
Pandemi sürecinde ruhsal durum düzeyi		
Düşük	261	58,5
Orta	150	33,6
Yüksek	35	7,8
Pandemi sürecinde fiziksel durum düzeyi		
Düşük	227	50,9
Orta	153	34,3
Yüksek	66	14,8
COVID-19 servisinde çalışma durumu		
Evet	47	10,5
Hayır	399	89,5
Mesleki doyum düzeyi		
Düşük	117	26,2
Orta	172	38,6
Yüksek	157	35,2
Pandemide işten ayrılma niyeti		
Evet	181	40,6
Hayır	265	59,4
	Ort±SS	**Min-Max**
Çalışma Yılı	7,86±6,86	1-35
Aylık yapılan fazla mesai (saat)	38,13±34,67	0-128
Aylık tutulan gece nöbeti sayısı	7,07±3,98	0-14

Ort±SS: Ortalama±Standart Sapma, Min: Minimum, Max: Maximum

Tablo 4'de hemşirelerin özelliklerine göre aile desteği puan ortalamaları karşılaştırılmıştır. Cinsiyet, medeni durum, çocuk varlığı, COVID-19 servisinde çalışma durumu değişkenleri ile aile desteği puan ortalaması arasında istatistiksel olarak anlamlı bir fark saptanmamıştır (p>0,05).

Yaşama şekli ile aile desteği puan ortalamaları karşılaştırıldığında gruplar arasında istatistiksel olarak anlamlı fark vardır (p =0,001). Yapılan analiz sonucunda farkın, ailesi ile yaşayan hemşireler ile yalnız veya arkadaşıyla yaşayan hemşireler arasında olduğu bulunmuştur. Ailesi ile yaşayan hemşirelerin aile desteği puan ortalaması hem yalnız yaşayan hemşirelerden hem de arkadaşı ile yaşayan hemşirelerden daha yüksektir ve aradaki fark istatistiksel olarak anlamlıdır (p=0,001) (Tablo 4).

COVID-19 geçirme durumu ile aile desteği puan ortalamaları karşılaştırıldığında; COVID-19 geçiren hemşirelerin COVID-19 geçirmeyen hemşirelere göre aile desteği puan ortalamaları daha düşüktür ve aradaki fark istatistiksel olarak anlamlıdır (p =0,048) (Tablo 4).

Mesleki doyum düzeyi yüksek olanların aile destek puanları düşük ve orta olanlardan daha iyidir. Pandemi dönemindeki ruhsal durum değişkenine göre, ruhsal durumu iyi olanların aile destek puanları düşük ve orta olanlara göre daha yüksek bulunmuştur. Pandemi dönemindeki fiziksel durum değişkenine göre, fiziksel durumu iyi olanların aile destek puanları düşük ve orta

olanlara göre daha yüksek bulunmuştur (Tablo4).

Tablo 4. Hemşirelerin Özelliklerine Göre Aile Desteği Puan Ortalamalarının Karşılaştırılması

Değişkenler	Gruplar	n	X̄ ± SS	Test Değeri	P
Yaşama şekli	Ailemle[1]	303	48,86 ± 8,16	F = 6,892[a]	0,001*
	Arkadaşımla[2]	42	44,80 ± 9,71		1-2: <0,01[†]
	Yalnız[3]	101	46,32 ± 7,69		1-3: <0,01[†]
					2-3: >0,05[†]
COVID-19 geçiren	Evet	164	46,88 ± 8,08	t = -1,983	0,048*
	Hayır	282	48,50 ± 8,41		
Mesleki Doyum Düzeyi	Düşük[1]	117	46,35 ± 8,62	F = 11,037[b]	<0,001*
	Orta[2]	172	46,72 ± 8,38		1-3: <0,01[†]
	Yüksek[3]	157	50,35 ± 7,48		2-3: <0,01[†]
					1-2: >0,05[†]
Pandemideki ruhsal durum	Düşük[1]	261	45,65 ± 8,61	F = 27,403[c]	<0,001*
	Orta[2]	150	50,56 ± 6,60		1-2: <0,01[†]
	Yüksek[3]	35	53,28 ± 6,96		1-3: <0,01[†]
					2-3: <0,01[†]
Pandemideki fiziksel durum	Düşük[1]	227	45,76 ± 8,54	F = 22,517[d]	<0,001*
	Orta[2]	153	48,93 ± 7,76		1-2: <0,01[†]
	Yüksek[3]	66	52,89 ± 6,00		1-3: <0,01[†]
					2-3: <0,01[†]

t = Bağımsız gruplarda t testi, F = Tek yönlü varyans analizi, [†]Bonferroni Düzeltmeli Mann-Whitney U testi, * = p < 0.05

Hemşirelerin aile destek düzeylerinin hemşirelerin işten ayrılma niyetleri üzerindeki etkisi incelemek için lojistik regresyon analizi yapılmıştır. Lojistik regresyon modeli istatistiksel olarak anlamlıydı, χ^2 (7) = 29,835, p < .0001. Model işten ayrılma niyetindeki varyansın %8'7'sini (Nagelkerke R2) açıklamıştır. Artan aile destek düzeyi işten ayrılma niyetinin azalması ile ilişkili bulunmuştur. Aile destek düzeyindeki bir puanlık artış işten ayrılma niyetinde %6,3 azalmaya yol açmıştır. Bu araştırmada, COVID-19 sürecinde Türkiye'deki hemşirelerin aile destek düzeylerinin işten ayrılma niyetleri üzerindeki etkisi incelenmiştir (Tablo 5).

Tablo 5. Hemşirelerin Aile Destek Düzeylerinin İşten Ayrılma Niyetleri Üzerindeki Etkisi

	B	S.E.	Wald	Df	Sig.	OR	95% C.I.for EXP(B)	
							Lower	Upper
Aile desteği	-,066	,013	27,196	1	<,001	,937	,914	,960
Constant	2,743	,606	20,491	1	<,001	15,528		

Omnibus, Chi Square = 29.835, df = 7, p <0.001, Hosmer Lemeshow, p > 0.05 Nagelkerke R^2 = .087, OR = Odds Ratio, CI = Confidence Interval, *p < 0.05

Yaşama şekli, COVID-19 geçirme durumu, mesleki doyum düzeyi, pandemi sürecindeki fiziksel ve ruhsal durum değişkenleri ile aile desteği arasında anlamlı bir fark bulunmuştur (Tablo 4).

Yaşama şekli değişkenine göre ailesi ile yaşayanların arkadaşı ile ya da yalnız yaşayanlara göre aile destek puanları daha yüksek bulunmuştur (Tablo 4). Ailelerden alınan sosyal desteğin hemşirelerin çalışma ortamındaki stresörler ile karşılaştıklarında

baş edebilmeleri için önemli olduğu düşünülmektedir. Sosyal desteğin hemşirelerin mesleki doyumu, işe bağlılığı, sağlığı ve esenliği üzerinde olumlu etkileri olduğunu belirten çalışmalar bulunmaktadır.[21,22] Afet olayları, acil durumlar ve bulaşıcı hastalık salgınları dahil olmak üzere sağlık çalışanlarının stresli olayları etkin bir şekilde yönetmesine yardımcı olmak için yeterli sosyal desteğin hayati önem taşıdığı görülmektedir.[23,24]

COVID-19 geçirme değişkenine göre; COVID-19 geçiren grubun aile destek puanları geçirmeyenlere göre daha düşük bulunmuştur (Tablo 4). Uluslararası Hemşireler Konseyi'nin (ICN) 30 ülkenin verileriyle yaptığı araştırmanın bulgularına göre 90 bin sağlık çalışanının enfekte olduğu, 260'tan fazla hemşirenin COVID-19 nedeniyle hayatını kaybettiği belirlenmiştir. Çalışmanın istatistiksel yorumu küresel olarak yapıldığında, enfekte vakaların %6'sının sağlık çalışanları olduğu tahmin edilmektedir.[25] Yalnızlığın önemli bir stres faktörü olarak kabul edildiği salgınlar sırasında karantina alanlarında çalışan hemşirelerle yapılan çalışmalarla doğrulanmıştır.[26,27] Hemşirelerin Çin'in Vuhan kentinde olduğu gibi ailelerinden ayrılmak ve belirlenmiş hastanelerde kalmak zorunda kaldığı durumlarda yalnızlık büyümektedir.[28] Hemşireler aile desteğinin özellikle salgın durumlarında önemini fark etmişlerdir.

Mesleki doyum düzeyi yüksek olanların aile destek puanları düşük ve orta olanlardan daha iyidir (Tablo 4). Mesleki doyum, bir mesleğin kişinin iş değerlerini elde etmesi veya kolaylaştırması için sağladığı fırsatlar olarak tanımlanır. Mesleki doyum, yeterli hemşirelik işgücünün korunmasında ve yüksek kalitede sağlık hizmeti sunulmasında önemli bir faktördür. Aile desteği, zor şartlar altında çalışanlara aile üyeleri tarafından sağlanan sosyal ve psikolojik destek olarak tanımlanmaktadır.[12]

Çin'de yapılan bir çalışma, ailesinden destek alan hemşirelerin en yüksek işe bağlılık ve işte kalma niyetini göstermiştir.[29] Hemşirelerin yaşadığı bu zorlu süreçte aile üyelerinin desteği mesleki doyumlarını artırmış ve işten ayrılma niyetlerini azaltmıştır. Hemşirelerin mesleki doyum düzeyini artırmak için kurumlar aile desteğini de göz önünde bulundurmalıdır.

Pandemi dönemindeki ruhsal durum değişkenine göre ruhsal durumu iyi olanların aile destek puanları düşük ve orta olanlara göre daha yüksek bulunmuştur (Tablo 4). Ruh sağlığı, bireyin genel refahı için temeldir ve üretken ve verimli bir yaşam için kesinlikle gereklidir.[30] Pandemi gibi ani gelişen olaylarda belirsizliğin uzun sürmesi bireylerin ruhsal durumlarını etkilemektedir.[31] Pandemi döneminde görev yapan sağlık çalışanları genel popülasyona göre stresten daha fazla etkilenmektedirler.[32] Pandemi sürecinde hemşireler yoğun iş stresinin yanı sıra başkaları tarafından sosyal izolasyona, ayrımcılığa ve yalnızlığa maruz kalabilmektedir. Aile üyelerinden ve sevdiklerinden izole yaşamak, yüksek riskli bölgelerde çalışmak ve enfekte bireylere bakım sağlamak ruhsal durumlarını etkilemektedir.[33] Hemşireler, COVID-19 pandemisi sırasında akrabalarını/ailelerini enfekte etmemek için çoğu zaman ayrı yerlerde izole yaşarlar.[18] Bu durum hemşirelerin ruhsal durumlarını olumsuz olarak etkilemektedir. Dai et al . (2020) Wuhan'da yapılan araştırmada, yakınlarından izole yaşayan ön saflardaki sağlık çalışanlarının stres oranının %39,1 olduğu belirtilmiştir.[34] Bu nedenle COVID-19 gibi zorlu bir süreçte sağlık çalışanlarının ailelerinden psikolojik olarak destek görmeleri ruhsal hallerini olumlu anlamda etkileyecektir.

Araştırmamızda fiziksel durumu iyi olanların pandemi dönemindeki fiziksel durum değişkenine göre fiziksel durumu iyi olanların aile destek puanları düşük ve orta olanlara göre daha yüksek bulunmuştur (Tablo 4). Pandemide hemşirelerin fiziksel durumu iyi olduğunda hastalara iyi bir bakım verebilecek, iş-aile dengesini daha iyi kurabilecek ve psikolojik olarak da kendisini daha iyi hissedecektir. [35,36]

Aile desteği düzeyi hemşirelerin işten ayrılma niyetlerinin %8.7'sini açıklamaktadır.

Aile destek düzeyindeki artış işten ayrılma niyetini negatif yönde etkilemektedir. Aile destek düzeyindeki bir puanlık artış işten ayrılma niyetini %6.3 azaltmaktadır. Hemşirelerin aile destek düzeyi yükseldikçe işten ayrılma niyeti azalmaktadır (Tablo 5). İş ve aile her insanın dengelemek zorunda olduğu iki önemli unsurdur. İş ve aile arasındaki dengeyi kurmakta zorlanıldığında iş-aile çatışması ortaya çıkmaktadır.[37] İş-aile çatışması, işten ayrılma niyetinin önemli bir belirleyicisidir.[38] İş-aile çatışması, bireyin işi ve aile rolleri arasında bir dengesizliğin olduğu ve iş sorumluluklarının aile tarafına taştığı bir durum olarak tanımlanmaktadır. İran'da yapılan bir araştırma, hemşirelerin %93'ünün iş-aile çatışması düzeylerinin orta ile yüksek arasında olduğunu belirtmiştir. Suresh ve Kodikol (2017) çalışmasında, hemşirelerin %79,4'ünün işinin gerektirdikleri nedeniyle aile meselelerini ele almada zorluk yaşadığını, %43,9'unun ise ailevi sorumluluklarından dolayı işte güçlük yaşadığını göstermiştir. COVID-19 pandemisi sırasında da hemşireler ağır stres, yetersiz koruyucu destek, artan iş yükü, enfekte olma veya virüsü ailelerine getirme konusundaki endişeleri nedeniyle işten ayrılma niyetinde olmuşlardır.[37] Bu süreçte hemşirelerin iş-aile çatışması yaşamaması için aile desteği oldukça önemli olmuştur. Çünkü aile desteğinin artması işten ayrılma niyetini azaltmıştır.

SONUÇ VE ÖNERİLER

Bu araştırmada, olumlu bir kavram olan aile desteği incelenmiştir. Mesleki doyumu yüksek olanların, fiziksel ve ruhsal durumu iyi olanların, ailesi ile yaşayanların ve COVID-19 geçirmeyenlerin aile destek puanları daha yüksek bulunmuştur. Kurumlar tarafından hemşirelerin aile destek düzeyleri arttırılmalıdır. Bunun için hemşirelere daha fazla izin hakkı verilebilir. Kurumların da desteği ile iş ve aile arasındaki denge sağlandığı zaman hemşirelerin iş verimleri ve kuruma bağlılıkları artacaktır.

KAYNAKLAR

1. Sharma, A, Ahmad Farouk, I. and Lal, S.K. (2021). "COVID-19: A Review on the Novel Coronavirus Disease Evolution, Transmission, Detection, Control and Prevention". Viruses, 13 (2), 202.
2. Şan, İ, Usul, E. Bekgöz, B. and Korkut, S. (2021). "Effects of COVID-19 Pandemic on Emergency Medical Services". Internatıonal Journal of Clinical Practice, 75 (5), e13885.
3. Oliveira, K.K.D, Freitas, R.J.M, Araújo, J.L. and Gomes, J.G.N. (2020). "Nursing Now and The Role of Nursing in The Context Of Pandemic and Current Work". Rev Gaucha Enferm, 19 (42), e20200120.
4. Choi, K.R, SkrineJeffers, K. and Cynthia Logsdon, M. (2020). "Nursing and the Novel Coronavirus: Risks And Responsibilities in a Global Outbreak". Journal of Advanced Nursing, 76, 1486-1487.
5. Drennan, V.M. and Ross, F. (2019). "Global Nurse Shortages-the Facts, the İmpact and Action for Change". British Medical Bulletin, 130 (1), 25-37.
6. Labrague, L.J. and de Los Santos J.A.A. (2021). "Fear of COVID-19, Psychological Distress, Work Satisfaction and Turnover İntention Among Frontline Nurses". Journal of Nursing Management, 29 (3), 395-403.
7. Nantsupawat, A, Kunaviktikul, W, Nantsupawat, R, Wichaikhum, O.A, Thienthong, H. and Poghosyan, L. (2017). "Effects of Nurse Work Environment on Job Dissatisfaction, Burnout, İntention to Leave". Internatıonal Nursing Review, 64 (1), 91-98.
8. World Health Organization (WHO). (2020). WHO and partners call for urgent investment in nurses. Retrieved from: https://www.who.int/news/item/07-04-2020-who-and-partners-call-for-urgent-investment-in-nurses (Erişim tarihi: 13.09.2023).
9. Sasso, L, Bagnasco, A, Catania, G, Zanini, M, Aleo, G. and Watson, R. (2019). "Push and Pull Factors of Nurses' İntention to Leave". Journal of Nursing Management, 27 (5), 946-954. doi: 10.1111/jonm.12745.
10. Wang, M.L. and Tsai, L.J. (2014). "Work–Family Conflict and Job Performance in Nurses: The Moderating Effects of Social Support". Journal of Nursing Research, 22 (3), 200-207.
11. Galletta, M, Portoghese, I, Melis, P, Gonzalez, C, I.A, Finco, G., D'Aloja, E, ... and Campagna, M. (2019). "The Role of Collective Affective Commitment in The Relationship Between Work–Family Conflict and Emotional Exhaustion Among Nurses: A Multilevel Modeling Approach". BMC Nursing, 18 (1), 1-9.
12. Greenhaus, J.H. and Beutell, N. (1985). "Sources of Conflict Between Work and Family Roles". Academy of Management Review, 10 (1), 76– 88. https://doi.org/10.5465/amr.1985.4277352
13. Tselebis, A, Lekka, D, Sikaras, C, Tsomaka, E, "Tassopoulos, A, Ilias I, ... and Pachi, A. (2020). Insomnia, Perceived Stress, and Family Support among Nursing Staff during the Pandemic Crisis". In Healthcare, 8 (4), 434.
14. Cohen J. Statistical Power Analysis for the Behavioral Sciences. 2nd Edition, Hillsdale, NJ:Erlbaum, 1988.
15. Faul, F, Erdfelder, E, Lang, A.G. and Buchner, A. (2007). "G*Power 3: A Flexible Statistical Power Analysis Program For The Social, Behavioral, and Biomedical Sciences". Behavior Research Methods, 39, 175-191.
16. De los Santos, J.A.A. and Labrague, L.J. (2020). "Impact of COVID-19 on the Psychological Well-Being and Turnover İntentions of Frontline Nurses in The Community: A Cross-Sectional Study in the Philippines". *MedRxiv*.

17. Catton, H. (2020). "Global Challenges in Health and Health Care For Nurses and Midwives Everywhere". International Nursing Review, 67 (1), 4-6.
18. Mo, Y, Deng, L, Zhang, L, Lang, Q, Liao, C, Wang, N. ... and Huang, H. (2020). "Work Stress Among Chinese Nurses to Support Wuhan in Fighting Against COVID-19 Epidemic". Journal of Nursing Management, 28 (5), 1002-1009.
19. Davis, L.L. (1992). Instrument Review: Getting the most from a Panel of Experts. Applied Nursing Research, 5, 194-197.
20. Şencan H (2005) Sosyal ve davranışsal ölçümlerde güvenilirlik ve geçerlilik (1. Basım) Seçkin Yayıncılık Sanayi ve Ticaret AŞ, Ankara, 499-559.
21. Choi, B.S. (2018). "Influence of Social Support and Resilience on The Nurse Job Performance". Indian Journal of Public Health Research & Development, 9 (3), 788– 792.
22. Hu, S.H, Yu, Y.M, Chang, W.Y. and Lin, Y.K. (2018). "Social Support and Factors Associated with Self-Efficacy Among Acute-Care Nurse Practitioners". Journal of Clinical Nursing, 27 (3–4), 876– 882.
23. Kim, H.J. and Park, H.R. (2017). "Factors Affecting Post-Traumatic Stress of General Hospital Nurses After The Epidemic of Middle East Respiratory Syndrome İnfection". Journal of Korean Clinical Nursing Research, 23 (2), 179– 188.
24. Labrague, L.J, McEnroe Petitte, D.M, Leocadio, M.C, Van Bogaert, P. and Tsaras, K. (2018). "Perceptions of Organizational Support and its İmpact on Nurses' Job Outcomes". Nursing Forum, 53 (3), 339– 347.
25. Uluslararası Hemşirelik Konseyi (ICN) . (2020). Erişim adresi: https://www.icn.ch/news/icn-calls-data-healthcare-worker-infection-rates-and-deaths. (Erişim tarihi: 13.09.2023).
26. Hall, L.M, Angus, J, Peter, E, O'Brien-Pallas, L, Wynn, F. and Donner, G. (2003). "Media Portrayal of Nurses' Perspectives and Concerns in the SARS Crisis in Toronto". Journal of Nursing Scholarship, 35 (3), 211- 216. https://doi.org/10.1111/j.1547-5069.2003.00211.x
27. Kim, Y. (2018). "Nurses' Experiences of Care For Patients With Middle East Respiratory Syndrome-Coronavirus in South Korea". American Journal of Infection Control, 46 (7), 781– 787. https://doi.org/10.1016/j.ajic.2018.01.012
28. Zhang, Y, Wang, C, Pan, W, Zheng, J, Gao, J, Huang, X, Cai, S, Zhai, Y, Latour, J.M. and Zhu, C. (2020). "Stress, Burnout, and Coping Strategies of Frontline Nurses During The COVID-19 Epidemic İn Wuhan and Shanghai, China". Frontiers in Psychiatry, 11, 565520.
29. Kim, Y.J, Lee, S.Y. and Cho, J.H. (2020). "A Study on the Job Retention İntention of Nurses Based on Social Support in the COVID-19 Situation". Sustainability, 12(18), 7276.
30. Hou, T, Zhang, T, Cai, W, Song, X, Chen, A, Deng, G. And Ni, C. (2020). "Social Support and Mental Health Among Health Care Workers During Coronavirus Disease 2019 Outbreak: A Moderated Mediation Model". PLoS One, 15(5), e0233831. https://doi.org/10.1371/journal.pone.0233831
31. Murat, M, Köse, S. and Savaşer, S. (2021). "Determination of Stress, Depression and Burnout Levels of Front-Line Nurses During The COVID-19 Pandemic". International Journal of Mental Health Nursing, 30(2), 533-543.
32. Zhu, Z, Xu, S. and Wang, H. (2020). "COVID-19 İn Wuhan: Sociodemographic Characteristics and Hospital Support Measures Associated With The İmmediate Psychological İmpact on Healthcare Workers". EClinicalMedicine, 24, 100443.
33. Kang, L, Li, Y. and Hu, S. (2020b). "The Mental Health of Medical Workers in Wuhan, China Dealing With The 2019 Novel Coronavirus". The Lancet Psychiatry, **7**(3), e14.
34. Dai, Y, Hu, G, Xiong, H, Qiu, H. And Yuan, X. (2020). Psychological impact of the coronavirus disease 2019 (COVID-19) outbreak on healthcare workers in China. MedRxiv,
35. Shanbehzadeh, S., Tavahomi, M., Zanjari, N., Ebrahimi-Takamjani, I., & Amiri-Arimi, S. (2021). Physical and mental health complications post-COVID-19: Scoping review. *Journal of psychosomatic research*, *147*, 110525.
36. Chen, K. Y., Li, T., Gong, F. H., Zhang, J. S., & Li, X. K. (2020). Predictors of health-related quality of life and influencing factors for COVID-19 patients, a follow-up at one month. *Frontiers in Psychiatry*, *11*, 668.
37. Labrague, L.J, Ballad, C.A. and Fronda, D.C. (2021). "Predictors and Outcomes of Work–Family Conflict Among Nurses". International Nursing Review, 68(3), 349-357.

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Hemşirelerin Kişilik Özellikleri ile Bakım Davranışları ve Manevi Bakım Yeterlilikleri Arasındaki İlişki

The Relationship between Nurses' Personality Traits and Care Behaviors and Spiritual Care Competencies

Aslı KURTGÖZ[1], Elif KETEN EDİS[2]

ÖZ

Bu çalışma, hemşirelerin kişilik özellikleri ile bakım davranışları ve manevi bakım yeterlilikleri arasındaki ilişkinin incelenmesi amacıyla yapılmıştır. Tanımlayıcı tipteki bu araştırma, Temmuz- Kasım 2022 tarihleri arasında yürütülmüştür. Araştırma, bir üniversite hastanesinde görev yapan 301 hemşirenin katılımıyla gerçekleştirilmiştir. Veriler, Katılımcı Bilgi Formu, On-Maddeli Kişilik Ölçeği, Bakım Davranışları Ölçeği-24 ve Manevi Bakım Yeterlilik Ölçeği Türkçe Versiyonu kullanılarak yüz yüze toplanmıştır. Hemşirelerin On-Maddeli Kişilik Ölçeği alt boyutlarından dışa dönüklük puan ortalaması 8,66±1,93, yumuşak başlılık puan ortalaması 8,32±1,94, sorumluluk puan ortalaması 7,93±1,49, duygusal dengelilik puan ortalaması 8,80±2,35 ve deneyime açıklık puan ortalaması 7,25±2,41 olarak saptanmıştır. Hemşirelerin Bakım Davranışları Ölçeği-24'ten aldıkları toplam puan ortalamasının 4,99±0,65; Manevi Bakım Yeterlilik Ölçeği toplam puan ortalamasının ise 101,50±16,96 olduğu belirlenmiştir. On-Maddeli Kişilik Ölçeği alt boyutları ile Bakım Davranışları Ölçeği-24 toplam puanı arasında anlamlı bir ilişki olmadığı (p>0,05), sorumluluk alt boyutu ile Manevi Bakım Yeterlilik Ölçeği Türkçe Versiyonu toplam puanı arasında pozitif yönde düşük düzeyde anlamlı bir ilişki olduğu saptanmıştır (r=,178; p=0,002). Bu çalışmada hemşirelerin bakım davranışları algılarının çok yüksek düzeyde, manevi bakım yeterliliklerinin ise yüksek düzeyde olduğu, kişilik özelliklerinin bakım davranışları algılarını etkilemediği ve sorumluluk bilinci fazla olan hemşirelerin manevi bakım yeterliliklerinin daha iyi düzeyde olduğu saptanmıştır.

Anahtar Kelimeler: Hemşireler, Hemşirelik Bakımı, Kişilik, Maneviyat, Mesleki Yeterlilik.

ABSTRACT

This study aimed to examine the relationship between the personal characteristics of nurses and their care behaviors and spiritual care competencies. A descriptive study was conducted between July and November 2022. A total of 301 nurses working at a university hospital participated. The data were collected face-to-face using the Participant Information Sheet, Ten-Item Personality Inventory, Caring Behaviors Inventory-24, and Turkish version of the Spiritual Care Competence Scale. In the Ten-Item Personality Inventory, the nurses exhibited mean scores of 8.66 ± 1.93 for the extraversion sub-scale, 8.32 ± 1.94 for the agreeableness sub-scale, 7.93 ± 1.49 for the conscientiousness sub-scale, 8.80 ± 2.35 for the emotional stability sub-scale, and 7.25 ± 2.41 for the openness to experiences sub-scale. The Caring Behaviors Inventory-24 and the Turkish version of the Spiritual Care Competence Scale mean scores of the nurses were found to be 4.99±0.65 and 101.49±16.95, respectively. No significant relationship was observed between the Ten-Item Personality Inventory sub-scale and the Caring Behaviors Inventory-24 total scores (p>0.05). Moreover, a positive low significant correlation was found between the conscientiousness sub-scale and the Turkish version of the Spiritual Care Competence Scale total scores (r=.178; p=0.002). The study findings revealed that nurses had very high perceptions of caring behaviors and a high level of spiritual care competencies; their personality characteristics did not influence their perceptions of caring behaviors; and nurses with a strong sense of responsibility exhibited higher spiritual care competencies.

Keywords: Nursing Care, Nurses, Personality, Professional Competence, Spirituality.

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[1] Dr. Öğr. Üyesi, Aslı KURTGÖZ, Hemşirelik Esasları, Amasya Üniversitesi Sabuncuoğlu Şerefeddin Sağlık Hizmetleri Meslek Yüksekokulu Terapi ve Rehabilitasyon Bölümü, asli.aydogan@amasya.edu.tr, ORCID: 0000-0001-5903-9389
[2] Dr. Öğr. Üyesi, Elif KETEN EDİS, Doğum ve Kadın Hastalıkları Hemşireliği, Amasya Üniversitesi Sağlık Bilimleri Fakültesi Hemşirelik Bölümü, elifketen05@gmail.com, ORCID: 0000-0002-5587-6726

İletişim / Corresponding Author: Aslı KURTGÖZ
e-posta/e-mail: asli.aydogan@amasya.edu.tr

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GİRİŞ

Bakım verme, hemşireliğin odak noktası olarak kabul edilmekte olup; sağlığın korunması, geliştirilmesi ve sağlıktan sapma durumunda iyileşmenin sağlanmasına yönelik, yardım edici sürecin tamamında yer alan inanç, değer, tutum ve davranışlar bütünüdür.[1,2] Bakım, hemşirelikte merkezi bir konuma sahip olmasına rağmen, karmaşık ve ölçümü zor bir kavramdır.[3] Bakımın biyo-psiko-sosyal açıdan çok boyutlu olarak ele alınması, tanımlanmasını zorlaştırmaktadır. Bu nedenle literatürde "bakım verme" yerine "bakım verme davranışları" ifadesi sıklıkla kullanılmaktadır.[4] Bakım davranışları; bilgi, beceri, kritik düşünme, etkili iletişim, dürüstlük, rahatlatma, dikkatli dinleme, yargılamadan kabullenme gibi bireyin iyilik halini destekleyici eylemleri içermektedir.[2,4]

Hemşirelik bakımının temel felsefesi, bireyin gereksinimlerinin bütüncül olarak değerlendirilmesi ve karşılanması üzerine odaklanır. Bütüncül bakımın en önemli boyutlarından birini manevi bakım oluşturur.[5] Manevi bakım; bireylerin hastalık, ölüm ve diğer zorlu süreçlerle baş etmesine, uyum sağlamasına, yaşamda anlam ve amaç bulmasına yardımcı olur. Bununla birlikte bireyin iç huzura kavuşmasını, umudunu, iyi hissetmesini ve yaşam kalitesinin yükseltilmesini destekler.[6,7] Manevi bakım; güven verme, empati kurma, umudu destekleme, şefkatli olma, saygı gösterme, bireyin duygularını ifade etmesine yardımcı olma, dini ritüellerini gerçekleştirmesine olanak sağlama gibi uygulamaları içermektedir.[5] Hemşireler bakım verdikleri bireylerin manevi gereksinimlerine karşı duyarlı olmalı ve bu gereksinimlere uygun yanıt verebilecek yeterlilikte olmalıdırlar.[6] Ancak bu konuya ilişkin yapılan çalışmalarda hemşirelerin manevi bakım yeterliliklerinin istendik düzeyde olmadığı ve kendilerini manevi bakım verme hususunda yetersiz hissettikleri belirtilmektedir.[8-10] Bu durum bireylere bütüncül bir hemşirelik bakımı sunulmasını engelleyen başlıca sorunlardan birini oluşturmaktadır.

Nitelikli bir hemşirelik bakımı sunulmasını etkileyen faktörlerin belirlenmesi ve bu engellere yönelik çözüm önerilerinin geliştirilmesi gerekmektedir. Hemşirelerin profesyonel tutumlarını ve bakım davranışlarını; çalışma ortamı, iş yükü, kişisel ve mesleki doyum, bireysel özellikler (yaş, deneyim vs.), zaman ve kaynak eksikliği gibi birçok faktörün etkilediği bildirilmektedir.[4,11,12] Literatürde, bireylerin kişilik özelliklerinin mesleki davranışlarını ve iş performanslarını etkilediği belirtilmektedir.[13,14] Bu nedenle bireylerin kişilik özelliklerine uygun mesleklerde çalışmalarının verimlilik, üretkenlik, olumlu tutum ve davranışlar sergilenmesi açısından oldukça önemli olduğu vurgulanmaktadır.[13] Hemşirelerle yürütülen çalışmalarda, hemşirelerin kişilik özelliklerinin mesleki memnuniyeti ve işte kalma niyetini önemli ölçüde etkilediği saptanmıştır.[15,16] Özdemir ve arkadaşlarının (2020) çalışmasında dışa dönük kişilik özelliğine sahip hemşirelerin mesleki memnuniyetlerinin daha yüksek olduğu belirlenmiştir.[17] Nitekim, hemşirelerin mesleği sevme ve icra etme istekliliğinin, mesleki performanslarını dolayısıyla bütüncül bakım verme davranışlarını etkileyebileceği düşünülmektedir. Bu bağlamda bakım davranışlarının (etkili iletişim kurabilme, yargılayıcı olmama vb.) ve manevi bakım uygulamalarının (güven verme, empati kurma, şefkatli olma, saygı gösterme vb.) gerçekleştirilebilmesi için hemşirelerin olumlu kişilik özelliklerine sahip olmalarının gerekli olduğu düşünülmektedir. Alanyazında bu konuya ilişkin çalışma ile karşılaşılmamış olması nedeniyle, bu durum çalışmamızın çıkış noktasını oluşturmuştur.

Bu araştırmada, hemşirelerin kişilik özellikleri ile bakım davranışları ve manevi bakım yeterlilikleri arasındaki ilişkinin incelenmesi amaçlanmıştır.

Araştırmada aşağıda sıralanan sorulara yanıt aranmıştır. Hemşirelerin;

- Bakım davranışları algıları ne düzeydedir ve bakım davranışları algılarını etkileyen faktörler nelerdir?

- Manevi bakım yeterlilikleri ne düzeydedir ve manevi bakım yeterliliklerini etkileyen faktörler nelerdir?
- Kişilik özellikleri ile bakım davranışları algıları ve manevi bakım yeterlilikleri arasında nasıl bir ilişki vardır?

MATERYAL VE METOT

Araştırmanın Türü

Bu çalışma, tanımlayıcı araştırma tipindedir.

Evren ve Örneklem

Çalışmanın evrenini bir üniversite hastanesinde görev yapan 892 hemşire oluşturmuştur. Örneklem hesaplamasında (evren büyüklüğü bilinen) Krejcie ve Morgan (1970) tarafından geliştirilen formül kullanılmış ve ulaşılması gereken minimum örneklem büyüklüğünün (güven aralığı: %95; hata payı: %5) 269 olduğu belirlenmiştir.[18] Çalışma, araştırmanın yürütüldüğü tarihlerde resmî izinde olmayan (doğum izni, ücretsiz izin vb.) 301 hemşirenin katılımıyla gerçekleştirilmiştir. Bu araştırmada olasılığa dayalı olmayan uygun örnekleme yöntemi kullanılmıştır.

Verilerin Toplanması

Veriler, Temmuz- Kasım 2022 tarihleri arasında, Katılımcı Bilgi Formu, On-Maddeli Kişilik Ölçeği (OMKÖ), Bakım Davranışları Ölçeği-24 (BDÖ-24) ve Manevi Bakım Yeterlilik Ölçeği Türkçe Versiyonu (MBYÖ-T) kullanılarak yüz yüze toplanmıştır. Öncelikle hemşirelere çalışmanın amacı ve süreci hakkında bilgi verilmiştir. Çalışmaya katılmaya gönüllü olan hemşirelerden bilgilendirilmiş onamları alındıktan sonra veri toplama formları dağıtılmıştır. Her bir katılımcının veri toplama formlarını öz bildirime dayalı olarak doldurması 10-15 dakika arasında sürmüştür.

Katılımcı Bilgi Formu

Araştırmacılar tarafından literatür doğrultusunda hazırlanan form, hemşirelerin bireysel ve mesleki olarak tanıtıcı özelliklerini (yaş, cinsiyet, meslekte çalışma yılı vb.) belirlemeye yönelik dokuz sorudan oluşmaktadır.[5, 10]

On-Maddeli Kişilik Ölçeği

Gosling ve arkadaşları (2003) tarafından geliştirilen ölçeğin Türkçe geçerlik ve güvenirlik çalışması Atak (2013) tarafından yapılmıştır.[19] On madde ve beş alt boyuttan oluşan ölçek; "Deneyime açıklık, Sorumluluk, Dışa dönüklük, Yumuşak başlılık ve Duygusal dengelilik" olmak üzere beş önemli kişilik özelliğini ölçmektedir. Ölçekten toplam puan elde edilememektedir. Yedili Likert tipindeki ölçeğin, her bir alt boyutunda iki madde yer almaktadır.[19]

Bakım Davranışları Ölçeği-24

BDÖ-24, Wolf ve arkadaşları (1994) tarafından geliştirilen 42 maddelik "Bakım Davranışları Ölçeği-42"nin kısa formudur. Ölçeğin kısa formu Wu ve arkadaşları (2006) tarafından geliştirilmiş, Türkçe geçerlik ve güvenirlik çalışması ise Kurşun ve Kanan (2012) tarafından yapılmıştır.[20] Ölçek hem hemşirelerin kendilerini değerlendirmeleri hem de hasta algılamalarını belirlemek amacıyla kullanılmaktadır. Altı puanlı Likert tipindeki ölçek 24 madde ve dört alt boyuttan (Güvence, Bilgi-beceri, Saygılı olma ve Bağlılık) oluşmaktadır. Toplam ölçek puanı, 24 maddenin puanları toplandıktan sonra 24'e bölünerek, 1-6 arasında elde edilmektedir. Kurşun ve Kanan'ın (2012) yapmış oldukları çalışmada, ölçeğin Cronbach Alfa güvenirlik katsayısı (hemşireler için) 0,96 olarak, bu çalışmada ise 0,94 olarak hesaplanmıştır.[20]

Manevi Bakım Yeterlilik Ölçeği Türkçe Versiyonu

Türkçe geçerlik ve güvenirlik çalışması Dağhan ve arkadaşları (2019) tarafından yapılan ölçek, van Leeuwen ve arkadaşları tarafından 2009 yılında geliştirilmiştir.[21] Ölçek, üç alt boyut ve toplam 27 maddeden oluşmaktadır. Beşli Likert tipindeki ölçekten alınabilecek puan aralığı 27-135'tir. Ölçekten alınan puanın yüksek olması manevi bakımla

ilişkili hemşirelik yeterliliğinin olduğunu göstermektedir. Ölçeğin Türkçe geçerlik ve güvenirlik çalışmasında Cronbach Alfa güvenirlik katsayısı 0,97 olarak saptanmıştır.[21] Bu çalışmada da Cronbach Alfa güvenirlik katsayısı 0,97 olarak bulunmuştur.

Verilerin Değerlendirilmesi

Verilerin analizinde, IBM Statistical Package for Social Science (SPSS) V25 programı kullanılmıştır. Verilerin normal dağılıma uygun olup olmadığı normallik testleri (Kolmogorow-Smirnov ve Shapiro-Wilk) kullanılarak belirlenmiştir. Veriler Mann Whitney U testi, Kruskall Wallis-H testi ve Spearman korelasyon analizi ile değerlendirilmiştir. Analiz sonuçları ortalama±standart sapma, ortanca (minimum-maksimum) ve frekans (yüzde) olarak ifade edilmiştir. Araştırmada anlamlılık düzeyi 0,05 olarak alınmıştır.

Araştırmanın Etik Yönü

Çalışmaya başlamadan önce etik kurul izni (Sayı:75815/Tarih: 20.06.2022) ve araştırmanın ilgili kurumda yürütülebilmesi için çalışma izni (Sayı: 269184/Tarih: 23.06.2022) alınmıştır. Ayrıca çalışmaya başlamadan önce Türkçe'ye uyarlamaları yapılan ölçeklerin kullanımı için Sayın Atak (On Maddeli Kişilik Ölçeği), Sayın Kurşun Kural (Bakım Davranışları Ölçeği-24) ve Sayın Kalkım'dan (Manevi Bakım Yeterlilik Ölçeği Türkçe Versiyonu) izin alınmıştır. Veri toplama araçları uygulanmadan önce katılımcılara bilgilendirme yapılıp, sözlü onamları alınmıştır.

Araştırmanın Kısıtlılıkları

Bu araştırma Karadeniz Bölgesinde yer alan bir üniversite hastanesinde görev yapan hemşireleri kapsamaktadır. Bu doğrultuda katılımcıların bireysel farklılıkları ve mesleki deneyimleri nedeniyle çalışmadan elde edilen veriler, tüm hemşirelere ve tüm sağlık bakım merkezlerine genellenemez. Bununla birlikte araştırmanın yalnızca bir hastanede yürütülmesi ve örneklem büyüklüğünün az olması bu çalışmanın diğer kısıtlılıklarıdır.

BULGULAR VE TARTIŞMA

Hemşirelerin bireysel ve mesleki tanıtıcı özellikleri Tablo 1'de sunulmuştur. Katılımcıların %89,0'ının kadın, %88,7'sinin lisans mezunu, %36,9'unun meslekte çalışma süresinin 61-180 ay ve %49,2'sinin mesleğinden memnun olduğu, %59,5'inin kişilik özelliklerinin mesleğiyle uyumlu olduğunu düşündüğü, %62,5'inin dahili servislerde çalıştığı, yaş ortalamasının ise 35,19±7,60 olduğu belirlenmiştir (Tablo 1).

Bu çalışmada hemşirelerin manevi bakım kapsamına giren uygulamaları, en sık "empatik ve şefkatli davranma (%14,4)", "konuşma/dinleme/zaman ayırma (%14,2)" ve "güler yüzlü davranma (%13,8)" olarak belirttikleri saptanmıştır (Tablo 1). Katılımcılara anket formunda sunulan *"Sizce manevi bakım hangi uygulamaları içermektedir?"* sorusunun altında yer alan tüm ifadeler, manevi bakım uygulamalarını içermekteydi. Buna karşın katılımcıların özellikle bazı ifadeleri (umudu destekleme, terapötik dokunma, ön yargısız davranma vb.) manevi bakım uygulamaları olarak daha az sıklıkla belirtmiş olmaları, hemşirelerin bu konuda yeterli düzeyde bilgi sahibi olmadıklarını düşündürmektedir. Nitekim literatürde sağlık profesyonellerinin manevi bakımın ne olduğu ve nasıl uygulanacağı konusunda büyük bir belirsizlik ve kafa karışıklığı yaşadıkları belirtilmektedir.[22]

Bununla birlikte alanyazında manevi bakıma ilişkin eğitim eksikliği, zaman kısıtlılığı, iş yükü fazlalığı, hemşire sayısının yetersizliği gibi faktörlerin hemşirelerin manevi bakım sunmasının önündeki engeller olduğu bildirilmektedir.[9, 10, 23] Bizim çalışmamızda da literatürle benzer sonuçlar elde edilmiş olup, hemşirelerin yeterli manevi bakım sunmalarının önündeki başlıca engelleri "hemşire sayısının yetersiz olması (%30,1)", "hasta sayısının fazla olması (%28,4)" ve "yeterli zamanın olmaması (%17,5)" olarak belirttikleri saptanmıştır (Tablo 1).

Hemşirelerin OMKÖ alt boyutlarından "dışa dönüklük" puan ortalaması 8,66±1,93; "yumuşak başlılık" puan ortalaması 8,32±1,94; "sorumluluk" puan ortalaması 7,93±1,49; "duygusal dengelilik" puan ortalaması 8,80±2,35 ve "deneyime açıklık" puan ortalaması 7,25±2,41'dir (Tablo 2).

Tablo 1. Hemşirelerin Tanıtıcı Özelliklerinin Dağılımı (n= 301)

Özellikler	Sayı	%
Cinsiyet		
Kadın	268	89,0
Erkek	33	11,0
Yaş ortalaması (Ort.±SS):	35,19±7,60	
Eğitim düzeyi		
Lise	11	3,7
Lisans	267	88,7
Yüksek lisans	23	7,6
Meslekte çalışma süresi		
0-60 ay	82	27,2
61-180 ay	111	36,9
181-300 ay	90	29,9
301 ve üzeri ay	18	6,0
Çalıştığı birim		
Dahili servisler	188	62,5
Cerrahi servisler	60	19,9
Yoğun bakım ünitesi	53	17,6
Mesleğinden memnun olma durumu		
Evet	148	49,2
Kısmen	140	46,5
Hayır	13	4,3
Manevi bakım uygulamaları *		
Empatik ve şefkatli davranma	274	14,4
Konuşma/dinleme/zaman ayırma	269	14,2
Bireyin sorularına cevap verme	240	12,7
Güler yüzlü davranma	262	13,8
Önyargısız davranma	189	10,0
İnançlarına saygı gösterme	243	12,8
Umudu destekleme	102	5,4
Manevi gereksinimlerini yerine getirmesine yardım etme	187	9,9
Terapötik dokunma	131	6,9
Manevi bakımın yeterli sunulabilmesinin önündeki engeller*		
Hasta sayısının fazla olması	130	28,4
Hemşire sayısının yetersiz olması	138	30,1
Yeterli zamanın olmaması	80	17,5
Bakım için gerekli fiziki imkanların olmaması	70	15,3
Bireyin kendini tükenmiş hissetmesi	40	8,7
Kişilik özelliklerinin mesleğiyle uyumlu olduğunu düşünme durumu		
Evet	179	59,5
Kısmen	105	34,9
Hayır	17	5,6
Toplam	**301**	**100,0**

*****Birden fazla cevap verilmiştir. Ort: Aritmetik Ortalama; SS: Standart Sapma; %: Yüzde*

Bu çalışmada hemşirelerin en yüksek puanı "duygusal dengelilik", en düşük puanı ise "deneyime açıklık" alt boyutundan aldıkları belirlenmiştir. Duygusal dengelilik bireylerin; dengeli ve sakin olma özelliklerini, deneyime açıklık ise bağımsız, yaratıcı, değişimi tercih edici ve duygulara duyarlı olma özelliklerini tanımlamaktadır.[19, 24, 25] Bu konuya ilişkin literatürde yeni deneyimlere açık olan bireylerin öğrenmeye hevesli oldukları ve zor koşulları fırsat olarak gördükleri, bu nedenle daha fazla kişisel başarı elde ettikleri ve daha az duygusal tükenme yaşadıkları belirtilmektedir.[26] Deneyime açık olmayan bireylerin ise kişilerarası ilişkilerde geleneksel tutuma sahip oldukları, yaratıcı özelliklerinin baskın olmadığı ve rutini tercih ettikleri ifade edilmektedir.[19, 24, 25]

Tablo 2. Hemşirelerin OMKÖ, BDÖ-24 ve MBYÖ-T'den Aldıkları Puanlar

Ölçekler	Ort.±SS	Ortanca (Min-Maks)
OMKÖ Alt Boyutları		
Dışa dönüklük	8,66±1,93	8,0 (2,0-13,0)
Yumuşak başlılık	8,32±1,94	8,0 (2,0-14,0)
Sorumluluk	7,93±1,49	8,0 (2,0-14,0)
Duygusal dengelilik	8,80±2,35	8,0 (2,0-14,0)
Deneyime açıklık	7,25±2,41	7,0 (2,0-14,0)
BDÖ Alt Boyutları		
Güvence	5,06±0,76	5,0 (3,0-11,0)
Bilgi-beceri	5,24±0,69	5,2 (3,0-6,0)
Saygılı olma	4,88±0,69	5,0 (3,0-6,0)
Bağlılık	4,76±0,75	4,8 (2,8-6,0)
BDÖ Toplam	4,99±0,65	5,0 (3,0-6,5)
MBYÖ-T Alt Boyutları		
Manevi bakımın değerlendirilmesi ve uygulanması	22,14±4,53	23,0 (6,0-30,0)
Manevi bakımda profesyonellik ve hasta danışmanlığı	54,61±10,16	56,0 (15,0-75,0)
Hastanın maneviyatına karşı tutumu ve iletişimi	24,74±4,22	24,0 (6,0-30,0)
MBYÖ-T Toplam	101,50±16,96	104,0 (27,0-135,0)

Ort: Aritmetik Ortalama; SS: Standart Sapma; Min: Minimum; Maks: Maksimum

Hemşirelerin BDÖ-24 "güvence" alt boyutundan aldıkları puan ortalamasının 5,06±0,76; "bilgi-beceri" puan ortalamasının 5,24±0,69; "saygılı olma" puan ortalamasının 4,88±0,69; "bağlılık" puan ortalamasının 4,76±0,75 ve toplam puan ortalamasının 4,99±0,65 olduğu saptanmıştır (Tablo 2).

Çalışmamızda hemşirelerin en yüksek puanı "bilgi-beceri", en düşük puanı ise "bağlılık" alt boyutundan aldıkları belirlenmiştir (Tablo 2). Bu konuya ilişkin ülkemizde ve farklı ülkelerde yapılan birçok çalışmanın sonuçları, bulgumuzla benzerlik göstermekte olup, hemşirelerin bilgi- beceriyi en önemli, bağlılığı ise en az önemli bakım davranışları olarak algıladıkları bildirilmiştir.[27-30] Bilgi ve beceri alt

boyutunda yer alan bakım davranışları; enjeksiyon, intravenöz vb. girişimlerin nasıl uygulanacağını bilme, araç-gereçleri beceriyle kullanma gibi uygulamaları; güvence alt boyutu hastaya istekle gitme, sorunu olduğunda çağırması için hastayı cesaretlendirme, hastanın çağrısına hemen yanıt verme, tedavilerini ve ilaçlarını zamanında uygulama; saygılı olma alt boyutu hastayı dinleme, destek olma, empati kurma, duygularını açıklamasına izin verme ve hastaya bir birey olarak davranma; bağlılık alt boyutu ise hastayı eğitme ya da bilgilendirme, hastaya zaman ayırma, anlayışlı ve sabırlı olma gibi davranışları içermektedir.[20] Hemşire sayısının az olması, iş yükü ve hasta sayısının fazla olmasının hemşirelerin nitelikli bakım sunmalarını engelleyen faktörler oldukları vurgulanmaktadır.[31] Bu bağlamda ülkemiz ve dünya genelindeki hemşire sayısının yetersizliği, hasta sayısının fazlalığı ve iş yükünün fazla olması gibi nedenlerin hemşirelerin tedavi ve beceri gerektiren uygulamalara daha fazla odaklanmalarına neden olduğu söylenebilir. Dolayısıyla bu durumun hemşirelerin bakımın diğer boyutlarına yeterli zaman ayıramama veya geri planda bırakmalarına neden olduğu düşünülmektedir.

Çalışmamızda hemşirelerin genel bakım davranışları algılarının çok yüksek olduğu belirlenmiştir (Tablo 2). Alanyazında yer alan çalışmalarda da hemşirelerin bakım davranışları algılarının oldukça yüksek olduğu bildirilmektedir.[11, 28, 32] Hemşirelerin bakım davranışları algılarının yüksek olması oldukça olumlu bir bulgu olup, bakım davranışlarını etkileyen sorunların belirlenip, çözüme kavuşturulmasıyla birlikte daha nitelikli bir bakım sunulması sağlanabilir. Bu doğrultuda çalışma koşullarının iyileştirilmesi, hemşirelerin mesleki ve bireysel gelişimlerinin desteklenmesi ve iş yükünün hafifletilmesi gibi temel hususlara ilişkin uygulamalar yapılabilir. Bu uygulamaların hemşirelerde tükenmişliğin azaltılmasına, mesleki doyumun ve memnuniyetin artırılmasına katkı sağlayarak, bakım davranışları algılarını olumlu yönde etkileyeceği düşünülmektedir. Nitekim bu çalışmada hemşirelerin eğitim düzeyinin (p=0,027), çalıştıkları birimin (p=0,006) ve mesleğinden memnun olma durumlarının (p=0,008) bakım davranışları algılarını anlamlı düzeyde etkilediği saptanmıştır (Tablo 3).

Bu çalışmada katılımcıların MBYÖ-T "manevi bakımın değerlendirilmesi ve uygulanması" alt boyutundan aldıkları puan ortalamasının 22,14±4,53; "manevi bakımda profesyonellik ve hasta danışmanlığı" puan ortalamasının 54,61±10,16; "hastanın maneviyatına karşı tutumu ve iletişimi" puan ortalamasının 24,74±4,22 ve toplam puan ortalamasının 101,50±16,96 olduğu belirlenmiştir (Tablo 2).

Tablo 3. Hemşirelerin Tanıtıcı Özellikleri ile BDÖ-24 ve MBYÖ-T'den Aldıkları Toplam Puanların Karşılaştırılması

Tanıtıcı Özellikler	BDÖ-24 Toplam	MBYÖ-T Toplam
	Ortanca (Min-Maks)	Ortanca (Min-Maks)
Cinsiyet		
Kadın	5 (3,38-6,50)	104,0 (27,0-135,0)
Erkek	5 (3,00-6,00)	106,0 (45,0-133,0)
Test ve p değeri	U=4314,0 p=0,819	U=4137,5 p=0,546
Eğitim düzeyi		
Lise	4,54 (3,83-5,29)[a]	97,0 (81,0-114,0)[ac]
Lisans	5 (3,00-6,00)[bc]	104,0 (27,0-135,0)[c]
Yüksek lisans	5,29 (3,75-6,50)[c]	108,0 (96,0-135,0)[b]
Test ve p değeri	χ^2= 7,229 **p=0,027***	χ^2=10,911 **p=0,004**
Meslekte çalışma süresi		
0-60 ay	5 (3,00-6,00)	101,5 (27,0-135,0)
61-180 ay	5 (3,50-6,50)	103,0 (45,0-132,0)
181-300 ay	5 (3,38-6,00)	105,0 (50,0-135,0)
301 ve üzeri ay	5,08 (4,04-6,00)	107,0 (81,0-130,0)
Test ve p değeri	χ^2= 5,320 p=0,150	χ^2=6,616 p=0,085
Çalıştığı birim		
Dahili servisler	5 (3,00-6,00)[ab]	103,5 (27,0-135,0)
Cerrahi servisler	5,14 (3,54-6,00)[a]	103 (70,0-135,0)
YBÜ	4,83 (3,38-6,50)[b]	106,0 (61,0-135,0)
Test ve p değeri	χ^2= 10,091 **p=0,006***	χ^2= 5,181 p=0,075
Mesleğinden memnun olma durumu		
Evet	5,08 (3,50-6,00)[a]	107,0 (27,0-135,0)[a]
Kısmen	4,95 (3,00-6,50)[ab]	100,5 (31,0-135,0)[b]
Hayır	4,83 (3,75-5,25)[b]	104,0 (61,0-118,0)[ab]
Test ve p değeri	χ^2=9,657 **p=0,008***	χ^2=25,411 **p<0,001****

*YBÜ: Yoğun Bakım Ünitesi; Min: Minimum; Maks: Maksimum; U: Mann Whitney U testi; χ^2: Kruskal Wallis-H testi; a-c: Aynı harfe sahip olanlar arasında fark yoktur. * p<0,05; **p<0,001*

Elde edilen sonuçlar doğrultusunda, hemşirelerin manevi bakım yeterliliklerinin yüksek düzeyde olduğu tespit edilmiştir (Tablo 2). Manevi bakım, fiziksel bakım kadar önemlidir ve bütüncül bakımın sağlanmasında merkezi bir öneme sahiptir. Bu

nedenle hemşirelerin manevi bakım sunabilecek yeterliliklere sahip olması gerekir.[33] Sağlık personelinin manevi bakım hakkında sürekli eğitimlerle desteklenmesinin, bu konuya ilişkin bilgi ve anlayışın inşa edilmesinde yardımcı olacağı vurgulanmaktadır.[22] Çalışmamızda hemşirelerin manevi bakım yeterlilik düzeyleri ile eğitim düzeyleri arasında istatistiksel olarak anlamlı fark olduğu tespit edilmiştir (p=0,004). Gruplar arası karşılaştırmada yüksek lisans mezunlarının lise ve lisans mezunu hemşirelere göre, manevi bakım yeterliliklerinin daha yüksek olduğu belirlenmiştir (Tablo 3). Çalışma bulgumuza benzer şekilde Alshehry'nin (2018) çalışmasında da hemşirelerin eğitim düzeyi ile manevi bakım yeterlilikleri arasında anlamlı bir ilişki olduğu saptanmıştır.[34] Bu doğrultuda eğitim düzeyinin manevi bakım yeterliliğini önemli ölçüde etkilediği söylenebilir. Hemşirelerin temel eğitim düzeylerindeki farklılıkların manevi bakım sunumunu etkilediği göz önüne alındığında, bütüncül bakım hizmetinin sürekliliği için hemşirelere manevi bakım konusunda hizmet içi eğitimler verilmesinin önemli olduğu düşünülmektedir. Nitekim, literatürde manevi bakımla ilgili eğitim alan hemşirelerin manevi bakım yeterliliklerinin daha yüksek olduğu bildirilmektedir.[35]

Çalışmamızda hemşirelerin mesleğinden memnun olma değişkeni ile manevi bakım yeterlilik puanları arasında anlamlı düzeyde fark olduğu saptanmıştır (p<0,001) (Tablo 3). Hemşirelikte manevi bakım uygulamalarının temelinde insan onuruna saygı, nezaket, şefkat gibi temel değerler yer almaktadır.[36] Mesleki memnuniyeti yüksek hemşirelerin mesleğini severek icra ettikleri ve mesleğin temel değerlerini benimseyerek bakım sundukları söylenebilir. Çalışmamızda mesleğinden memnun olan hemşirelerin manevi bakım yeterliliklerinin daha yüksek olmasının bu durum kaynaklı olduğu düşünülmektedir.

Bu çalışmada cinsiyet, çalışılan birim ve meslekte çalışma süresi ile hemşirelerin MBYÖ-T puanları arasında anlamlı bir ilişki bulunamamıştır (p>0,05). Jafari ve Fallahi-Khoshknab'ın (2021) yapmış oldukları çalışmada ise kadınların manevi bakım yeterliliklerinin erkek hemşirelere göre anlamlı düzeyde daha yüksek olduğu, ancak çalışma yılının manevi bakım yeterliliği üzerinde etkisinin olmadığı belirlenmiştir.[37]

Hemşirelerin OMKÖ alt boyutları ile BDÖ-24 ve MBYÖ-T'den aldıkları toplam puanlar arasındaki korelasyon analizi sonuçları Tablo 4'te sunulmuştur. OMKÖ alt boyutları ile BDÖ-24 toplam puanı arasında anlamlı bir ilişki olmadığı belirlenmiştir (p>0,05). Elde edilen sonuçlar doğrultusunda, hemşirelerin kişilik özelliklerinin bakım davranışları algılarını etkilemediği söylenebilir. Literatürde bu konuya ilişkin yapılmış çalışmalarla karşılaşılmamış olmakla birlikte, Özdemir ve arkadaşları (2020) hemşirelerin kişilik özellikleriyle mesleki tutum ve becerileri arasında anlamlı bir ilişki tespit edilmediğini bildirmişlerdir.[17] Bulgumuzun doğrultusunda hemşirelerin belirgin kişilik özellikleri ne olursa olsun, mesleğin gerekliliklerini ve bakım davranışlarını profesyonel bir tutum içinde yerine getirdikleri söylenebilir.

Tablo 4. Hemşirelerin OMKÖ, BDÖ-24 ve MBYÖ-T'den Aldıkları Puanlar Arasındaki İlişki

OMKÖ Alt Boyutları		BDÖ-24	MBYÖ-T
Dışa Dönüklük	**r**	,064	,094
	p	0,265	0,104
Yumuşak Başlılık	**r**	,021	,076
	p	0,716	0,188
Sorumluluk	**r**	,000	,178
	p	0,999	**0,002**
Duygusal Dengelilik	**r**	,076	,049
	p	0,189	0,396
Deneyime Açıklık	**r**	,104	,078
	p	0,072	0,177
	BDÖ-24		r= ,409
	MBYÖ-T		**p<0,001**

r: Spearman Sıra Korelasyonu Katsayısı

OMKÖ "sorumluluk" alt boyutu ile MBYÖ-T toplam puanı arasında pozitif yönde düşük düzeyde anlamlı bir ilişki olduğu (r=,178; p=0,002) saptanmıştır. Bu bulgu sorumluluk düzeyi yüksek olan hemşirelerin manevi bakım yeterliliklerinin daha iyi düzeyde olduğunu göstermektedir. Sorumluluk alt boyutu bireylerin öz disiplinli, planlı, özenli, düzenli, tedbirli olma ve görev temelli davranma gibi özelliklerini sorgulamaktadır.[19, 24] Hemşirelerin kişisel

sorumluluk düzeyleri ile kaçırılan hemşirelik bakımı sıklığı arasında negatif bir korelasyon olduğu bildirilmiştir.[38] Bu bağlamda sorumluluk düzeyi yüksek olan hemşirelerin, mesleğini icra ederken daha planlı ve düzenli davrandıkları, bu nedenle bireylerin bakım gereksinimlerini tüm boyutlarıyla titiz bir şekilde değerlendirip, bütüncül olarak karşıladıkları söylenebilir. Kişilik özelliklerinin hemşirelik yeterliliğinin gelişimini kolaylaştırma veya engelleme potansiyeline sahip olduğu belirtilmektedir.[39] Dolayısıyla hemşirelerin öz disiplinli olma ve görev temelli davranma bilinciyle mesleki yeterliliklerini destekleyici eylemlerde bulundukları ve bu doğrultuda mesleki gelişimlerini artırarak manevi bakım konusunda daha yeterli düzeyde oldukları söylenebilir.

Yüksek kalitede bakım verme hemşirelerin en önemli mesleki sorumluluklarından biridir.[3] Bunun için hemşirelerin, mesleğin gerektirdiği tüm yeterliliklere sahip olmaları gerekmektedir. Çünkü hemşirelik yeterliliği, hastalara verilen hemşirelik bakımının kalitesini doğrudan etkilemektedir.[39] Çalışmamızda hemşirelerin BDÖ-24 ile MBYÖ-T toplam puanları arasında pozitif yönde orta düzeyde anlamlı bir ilişki olduğu belirlenmiştir (r=,409; p<0,001) (Tablo 4). Bu doğrultuda hemşirelerin bakım davranışları algıları arttıkça, manevi bakım yeterlilik düzeylerinin de arttığı tespit edilmiştir. Bakım davranışları algısı yüksek olan hemşirelerin bireylerin sadece fiziksel gereksinimlerine odaklanmayıp, manevi boyutlarını değerlendirmeleri ve bu boyuta yönelik gereksinimleri karşılamaları beklenilen bir tutumdur.

SONUÇ VE ÖNERİLER

Hemşirelerin hemşirelik bilgisi ve felsefesi doğrultusunda nitelikli bir şekilde bütüncül bakım sunmaları hasta memnuniyeti ve bakım kalitesini etkileyen önemli bir unsurdur. Bu bağlamda hemşirelerin nasıl bir bakım sunduklarına ilişkin farkındalıklarının olması ve bakımın sunumunu etkileyen faktörlerin belirlenmesi önem arz etmektedir. Bu çalışmada hemşirelerin bakım davranışları algılarının çok yüksek düzeyde, manevi bakım yeterliliklerinin ise yüksek düzeyde olduğu, kişilik özelliklerinin bakım davranışları algılarını etkilemediği ve sorumluluk bilinci fazla olan hemşirelerin manevi bakım yeterliliklerinin daha iyi düzeyde olduğu belirlenmiştir. Hemşirelerin çalışma koşullarını iyileştirmenin, kişisel ve mesleki gelişimlerini desteklemenin ve manevi bakım konusunda sürekli eğitimler verilmesinin bakım davranışları algılarını ve manevi bakım yeterliliklerini artıracağı düşünülmektedir. Hemşirelik hizmetlerin daha nitelikli olması ve hemşire-hasta memnuniyetinin artırılması açısından hemşirelerin kişilik özelliklerine uygun birimlerde görevlendirilmelerinin yararlı olacağı düşünülmektedir. Bununla birlikte hastaların manevi bakım gereksinimlerinin daha da ön plana çıktığı birimlerde (onkoloji servisleri, palyatif bakım üniteleri vb.) çalışan hemşirelerin manevi bakım sunabilme yeterlilikleri hizmet içi eğitimlerle mutlaka geliştirilmelidir. Hemşirelerin kişilik özelliklerini nasıl tanımladığı ve kişilik özelliklerinin bakım davranışları algılarını ve manevi bakım yeterliliklerini ne düzeyde etkilediğini ele alan özellikle nitel desende çalışmalar yapılması önerilmektedir.

KAYNAKLAR

1. Erkal İlhan, S. ve Öztaş, D. (2021). "Hemşirelik Bakımı Kavramı". In: M. Kara Kaşıkçı ve E. Akın (Ed.). Temel Hemşirelik Esaslar, Kavramlar, İlkeler, Uygulamalar (s. 230). İstanbul: İstanbul Tıp Kitapevleri.
2. Papastavrou, E, Efstathiou, G. and Charalambous, A. (2011). "Nurses' and Patients' Perceptions of Caring Behaviours: Quantitative Systematic Review of Comparative Studies". Journal of Advanced Nursing, 67 (6), 1191-1205. https://doi.org/10.1111/j.1365-2648.2010.05580.x
3. Oluma, A. and Abadiga, M. (2020). "Caring Behavior and Associated Factors among Nurses Working in Jimma University Specialized Hospital, Oromia, Southwest Ethiopia, 2019". BMC Nursing, 19 (19), 2-7. https://doi.org/10.1186/s12912-020-0407-2
4. Salimi, S. and Azimpour, A. (2013). "Determinants of Nurses' Caring Behaviors (DNCB): Preliminary Validation of a Scale". Journal of Caring Sciences, 2 (4), 269-278. https://doi.org/10.5681/jcs.2013.032

5. Kalkım, A. (2021). "Hemşirelikte Manevi Bakım". In: M. Kara Kaşıkçı ve E. Akın (Ed.). Temel Hemşirelik Esaslar, Kavramlar, İlkeler, Uygulamalar (ss. 259-265). İstanbul: İstanbul Tıp Kitapevleri.
6. Berman, A, Snyder, S. and Frandsen, G. (2021). "Spirituality". In: A. Berman, S. Snyder and G. Frandsen (Ed.). Kozier & Erb's Fundamentals of Nursing: Concepts, Process, and Practice (pp. 1047-1048). United Kingdom: Pearson Education.
7. Yelen Akpınar, Y. ve Aşti, N. (2021). "Maneviyat, Manevi Bakım ve Manevi Bakımın Hemşirelikte Önemi". YOBÜ Sağlık Bilimleri Fakültesi Dergisi, 2 (3), 127-140.
8. Abell, C.H, Garrett-Wright, D. and Abell, C.E. (2018). "Nurses' Perceptions of Competence in Providing Spiritual Care". Journal of Holistic Nursing, 36 (1), 33–37. https://doi.org/10.1177/0898010116684960
9. Gallison, B.S, Xu, Y, Jurgens, C.Y. and Boyle, S.M. (2013). "Acute Care Nurses' Spiritual Care Practices". Journal of Holistic Nursing: Official Journal of the American Holistic Nurses' Association, 31 (2), 95–103. https://doi.org/10.1177/0898010112464121
10. Kiaei, Z.M, Salehi, A, Moosazadeh Nasrabadi, A, Whitehead, D, Azmal, M, Kalhor, R. and Shah Bahrami, E. (2015). "Spirituality and Spiritual Care in Iran: Nurses' Perceptions and Barriers". International Nursing Review, 62 (4), 584–592. https://doi.org/10.1111/inr.12222
11. Erol, F. and Turk, G. (2019). "Assessing the Caring Behaviours and Occupational Professional Attitudes of Nurses". The Journal of the Pakistan Medical Association, 69 (6), 783-787.
12. Assefa, A, Getahun, D, Desalegn, N, Kefelew, E, Molla, W, Assefa, D.G. and Abebe, M. (2022). "Perception of Caring Behavior and Associated Factors among Nurses and Midwives Working in Public Hospitals in Southern Ethiopia". International Journal of Nursing Sciences, 9 (4), 490-495. https://doi.org/10.1016/j.ijnss.2022.09.014
13. Matthews, G, Deary, I.J. and Whiteman, M.C. (2009). "Applications of Personality Assessment". In: G. Matthews, I.J. Deary and M.C. Whiteman (Ed.). Personality Traits (p. 411). New York: Cambridge University Press.
14. Gözel, G, Atmaca, G.D. ve Durat, G. (2017). "Hemşirelerin Kişilik Özellikleri ile İş Performansları Arasındaki İlişkinin Değerlendirilmesi". Kocaeli Üniversitesi Sağlık Bilimleri Dergisi, 3 (1), 11-16. https://doi.org/10.30934/kusbed.359177
15. Chang, Y.H, Li, H.H, Wu, C.M. and Wang, P.C. (2010). "The Influence of Personality Traits on Nurses' Job Satisfaction in Taiwan". International Nursing Review, 57 (4), 478-484. https://doi.org/10.1111/j.1466-7657.2010.00825.x
16. Chen, L.C, Perng, S.J, Chang, F.M. and Lai, H.L. (2016). "Influence of Work Values and Personality Traits on Intent to Stay among Nurses at Various Types of Hospital in Taiwan". Journal of Nursing Management, 24 (1), 30-38. https://doi.org/10.1111/jonm.12268
17. Özdemir, Ö, Temiz, G. ve Akın S. (2020). "Hemşirelerin Kişilik Özellikleri, Benlik Kavramı ve Mesleğe İlişkin Algıları Arasındaki İlişkinin İncelenmesi". Journal of Academic Research in Nursing, 6 (3), 455-464. https://doi.org/10.5222/jaren.2020.21043
18. Krejcie, R.V., and Morgan, D.W. (1970). "Determining Sample Size for Research Activities". Educational and Psychological Measurement, 30 (3), 607-610. https://doi.org/10.1177/001316447003000308
19. Atak, H. (2013). "On-Maddeli Kişilik Ölçeği'nin Türk Kültürü'ne Uyarlanması". Nöropsikiyatri Arşivi, 50, 312-319.
20. Kurşun, Ş. ve Kanan, N. (2012). "Bakım Davranışları Ölçeği-24'ün Türkçeye Uyarlanması: Geçerlik ve Güvenirlik Çalışması". Anadolu Hemşirelik ve Sağlık Bilimleri Dergisi, 15 (4), 229-235.
21. Daghan, S, Kalkim, A. and Sağkal Midilli, T. (2019). "Psychometric Evaluation of the Turkish Form of the Spiritual Care Competence Scale". Journal of Religion and Health, 58 (1), 14-27. https://doi.org/10.1007/s10943-018-0594-2
22. Ellis, J. and Lyord-Williams, M. (2012). "Palliative Care". In: M. Cobb, C.M Puchalski and B. Rumbold (Ed.). Oxford Textbook of Spirituality in Healthcare (pp. 257-261). New York: Oxford University Press.
23. Bakir, E, Samancioglu, S. and Kilic, S. P. (2017). "Spiritual Experiences of Muslim Critical Care Nurses". Journal of Religion and Health, 56 (6), 2118-2128. https://doi.org/10.1007/s10943-017-0382-4
24. Cervone, D. and Pervin, L.A. (2019). "Trait Theory: The Five-Factor Model and Contemporary Developments". In: D. Cervone and L.A. Pervin (Ed.). Personality: Theory and Research (pp. 208-209). Hoboken: John Wiley & Sons.
25. Yöndem, Z.D. (2017). "Kişilik". In: M. Durak, E.Ş. Durak ve U. Kocatepe (Çev. Ed.). Aklımın Aklı: Psikoloji (s. 265). Ankara: Nobel Akademik.
26. Molavynejad, S, Babazadeh, M, Bereihi, F. and Cheraghian, B. (2019). "Relationship between Personality Traits and Burnout in Oncology Nurses". Journal of Family Medicine and Primary Care, 8 (9), 2898-2902. https://doi.org/10.4103/jfmpc.jfmpc_423_19
27. Cerit, B. ve Coşkun, S. (2018). "Hasta ve Hemşirelerin Hemşirelik Bakım Kalitesine İlişkin Algıları". Turkish Journal of Clinics and Laboratory, 9 (2), 103-109.
28. Erenoğlu, R, Can, R. ve Tambağ, H. (2019). "Hemşirelik Bakım Davranışları ve Bakım Davranışları ile İlgili Faktörler: Doğumevi Örneği". Sağlık ve Toplum, 29 (1), 79-88.
29. He, T, Du, Y, Wang, L, Zhong, Z.F, Ye, X.C. and Liu, X.H. (2013). "Perceptions of Caring in China: Patient and Nurse Questionnaire Survey". International Nursing Review, 60 (4), 487–493. https://doi.org/10.1111/inr.12058
30. Papastavrou, E, Efstathiou, G, Tsangari, H, Suhonen, R, Leino-Kilpi, H, Patiraki, E, Karlou, C, Balogh, Z, Palese, A, Tomietto, M, Jarosova, D. and Merkouris, A. (2012). "A Cross-Cultural Study of the Concept of Caring through Behaviours: Patients' and Nurses' Perspectives in Six Different EU Countries". Journal of Advanced Nursing, 68 (5), 1026–1037. https://doi.org/10.1111/j.1365-2648.2011.05807.x
31. Gül, Ş. ve Dinç, L. (2018). "Hastaların ve Hemşirelerin Hemşirelik Bakımına Yönelik Algılarının İncelenmesi". Hacettepe Üniversitesi Hemşirelik Fakültesi Dergisi, 5 (3), 192-208.
32. Çolak Okumuş, D. ve Uğur, E. (2017). "Hemşirelerin Duygusal Zekâ Düzeylerinin Bakım Davranışlarına Etkisi". Acıbadem Üniversitesi Sağlık Bilimleri Dergisi, 2, 104-109.
33. O'Brien, M.R, Kinloch, K, Groves, K.E. and Jack, B.A. (2019). "Meeting Patients' Spiritual Needs during End-Of-Life Care: A Qualitative Study of Nurses' and Healthcare Professionals' Perceptions of Spiritual Care Training". Journal of Clinical Nursing, 28 (1-2), 182–189. https://doi.org/10.1111/jocn.14648
34. Alshehry, A. (2018). "Spirituality and Spiritual Care Competence among Expatriate Nurses Working in Saudi Arabia". Religions, 9 (12), 384. http://dx.doi.org/10.3390/rel9120384
35. Cheng, Q, Liu, X, Li, X, Wang, Y, Lin, Q, Qing, L, Wei, D. and Chen, Y. (2021). "Spiritual Care Competence and Its Relationship with Self-Efficacy: An Online Survey among Nurses in Mainland China". Journal of Nursing Management, 29 (2), 326–332. https://doi.org/10.1111/jonm.13157
36. Meehan, T.C. (2012). "Spirituality and Spiritual Care from a Careful Nursing Perspective". Journal of Nursing Management, 20 (8), 990-1001. https://doi.org/10.1111/j.1365-2834.2012.01462.x
37. Jafari, M. and Fallahi-Khoshknab, M. (2021). "Competence in Providing Spiritual Care and Its Relationship with Spiritual Well-Being among Iranian Nurses". Journal of Education and Health Promotion, 10, 388. https://doi.org/10.4103/jehp.jehp_203_21
38. Drach-Zahavy, A. and Srulovici, E. (2019). "The Personality Profile of the Accountable Nurse and Missed Nursing Care". Journal of Advanced Nursing, 75 (2), 368-379. https://doi.org/10.1111/jan.13849
39. Takase, M, Yamamoto, M. and Sato, Y. (2018). "Effects of Nurses' Personality Traits and their Environmental Characteristics on their Workplace Learning and Nursing Competence". Japan Journal of Nursing Science, 15 (2), 167-180. https://doi.org/10.1111/jjns.12180

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Yetişkin Bireylerin Siberkondri Düzeyleri ve Etkileyen Faktörler

Cybechondria Levels of Adult Individuals and Affecting Factors

Gülay YILDIRIM[1], Mahruk RASHIDI[2]

ÖZ

Siberkondri, hastalık ve sağlık ile ilgili internet ortamında sıklıkla bilgi edinme davranışıdır. İnternette endişeyi gidermek amaçlı yapılan sağlık aramaları bireyleri daha fazla endişe ve belirsizliğe iterek yanlış davranışlarda bulunmalarına sebep olabilmektedir. Araştırma tanımlayıcı ve kesitsel bir çalışma olup, yetişkin bireylerin siberkondri düzeylerini ve etkileyen faktörleri incelemeyi amaçlamıştır.

Veriler Ağustos-Kasım 2023 tarihleri arasında, İstanbul'daki 18 yaş ve üzeri yetişkin bireylerde Kişisel Bilgi Formu, Siberkondri Şiddet Ölçeği kullanılarak elde edilmiştir. Anket soruları bireylere online olarak ulaştırılmıştır. Toplam 347 birey araştırmaya katılmıştır.

Siberkondri düzeyleri 29,17±8,5 olarak bulunmuştur. Yaşı 40'ın altı olan ($p<0,05$), geliri giderinden yüksek olan ($p<0,05$), hekime başvuru öncesi internette şikayetleri ile ilgili araştırma yapan ($p=0,001$), hekimin verdiği tedaviye başlamadan önce internetten araştırma yapan ($p=0,001$) ve hekim önerisi dışında kendi isteğiyle ilaç alan ($p=0,05$) bireylerin siberkondri düzeyleri yüksek bulunmuştur. Aynı zamanda internette günlük geçirdiği süre fazla olan bireylerin ($p<0,01$) ve internette elde ettiği bilgilere güvenen bireylerin ($p<0,001$) siberkondri düzeyleri yüksektir.

Sonuç olarak yetişkin olan bireylerin siberkondri düzeyleri orta seviyededir. Bireylerin siberkondri düzeylerini; yüksek gelir, hekime başvurmadan önce şikayetleriyle ilgili internette aramalarda bulunma, gün içerisinde internette uzun süre vakit geçirme ve internette elde ettikleri bilgilere güvenme faktörleri artırmıştır. Siberkondri alışkanlığı olan bireylere danışmanlık hizmetinin verilmesi ve internette yer alan sağlıkla ilgili bilgilerin kalitesinin artırılması önerilmektedir.

Anahtar Kelimeler: : İnternet, Sağlık sorunları, Siberkondri, Yetişkin,

ABSTRACT

Cyberchondria is the behavior of frequently obtaining information about illness and health on the internet. Health searches made on the internet to relieve anxiety can push individuals into more anxiety and uncertainty, causing them to engage in wrong behavior. The research is a descriptive and cross-sectional study and aimed to examine the cyberchondria levels of adult individuals and the affecting factors.

Data was obtained between August and November 2023, using the Personal Information Form, Cyberchondria Severity Scale on adult individuals aged 18 and over in Istanbul. Survey questions were delivered to individuals online. A total of 347 individuals participated in the research.

Cyberchondria levels were found to be 29.17±8.5. Cyberchondria levels were found to be high in individuals who were under the age of 40 ($p<0.05$), whose income was higher than their expenses ($p<0.05$), who researched their complaints on the internet before applying to the physician ($p<0.001$), who did research on the internet before starting the treatment given by the physician ($p<0.001$) and who took medication voluntarily without the physician's recommendation ($p<0,05$). At the same time, individuals who spend a lot of time on the internet daily ($p<0.01$) and individuals who trust the information they obtain on the internet have high levels of cyberchondria ($p<0.001$).

As a result, the cyberchondria levels of adult individuals are at a medium level. According to the developed model, the factors of high income, searching the Internet about their complaints before applying to a doctor, spending a long time on the Internet during the day, and trusting the information they obtained on the Internet increased the levels of cyberchondria. It is recommended to provide counseling services to individuals with cyberchondria habits and to increase the quality of health-related information on the internet.

Key words: Internet, Health problems, Cyberchondria, Adult

[1] Dr. Öğr. Üyesi, Gülay YILDIRIM, Hemşirelik, Trakya Üniversitesi, Keşan Hakkı Yörük Sağlık Yüksekokulu, Hemşirelik, gulayyildirim1@trakya.edu.tr, ORCID: 0000-0003-1164-3274
[2] Dr. Öğr. Üyesi, Mahruk RASHIDI, Hemşirelik, İstanbul Gelişim Üniversitesi, Sağlık Bilimleri Fakültesi, Hemşirelik, mrashidi@gelisim.ede.tr, ORCID: 0000-0002-6645-2427

İletişim / Corresponding Author: Gülay YILDIRIM
e-posta/e-mail: gulayyildirim1@trakya.edu.tr

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GİRİŞ

Siberkondri, hastalık ve sağlık ile ilgili internet ortamında sıklıkla bilgi edinme davranışına denir. Birçok insan internette sağlıklı yaşam ve hastalık belirti bulgularını araştırmaktadır.[1] Bu sayede insanlar bilgiye kolay ulaşabilir, arama süreci kullanışlı ve maliyetsiz olabilir.[2] Bunun yanında bu eylemin birçok dezavantajları bulunmaktadır. Yanlış bilgilere maruz kalabilir ve hasta–hekim, hasta–hemşire ilişkisini olumsuz yönde etkileyebilir.[3]

Siberkondrinın dezavantajlarından biri sağlık kaygısının artmasına neden olmasıdır. Hafif kaygıdan yüksek kaygıya kadar değişen bir süreç gelişebilir.[4] Rahatlamak isteyen bir birey yanlış bilgiler okuduğunda sağlık kaygısı patolojik düzeye kadar ilerleyebilir.[5] Sağlık kaygısı ne kadar çok olursa internette hastalık araştırma eğilimi o kadar çok olacaktır. Bu durum kişiyi daha çok kaygılandıracaktır.[6] İnternet ortamında sağlık bilgisi aramanın bir kısır döngü halinde sağlık kaygısı yaşayan bireyler arasındaki endişeleri ve belirsizliği artırdığı görülmektedir.[1]

Siberkondri, sağlık konusunda endişesini hafifletmek isteyen, ancak sonuçların kötüleşmesi ile sonuçlanan bir davranıştır. İçini rahatlatma davranış biçimi ile birlikte bu kişiler yanlış ve doğru olmayan bilgilerle kaygı düzeylerini arttıracaklardır.[7] Siberkondri, güvenilir ve güvenilir olmayan bilgi kaynakları arasında ayrım yapma konusunda kişiyi zorlayacaktır. Bu, bireyin eğitim seviyesi ve internet teknoloji kullanma seviyesi ile alakalı da olabilir. Eğitim seviyesi düşük olan kişilerde, güvenilir kaynaklara ve güvenilir sayfalara ulaşmak daha zor olacaktır.[8] İnternette yer alan bilgi, modern tıbba yönelik güven kaybına neden olabilir ve kişileri yanlış alternatif tedavilere yönlendirebilir.[9]

Artan dijital kullanım sonucu internetten sağlık ve hastalık bilgisi arayan kişilerin sayısı artmaktadır. Bunun sonucu olarak siberkondri düzeyi artmaktadır. Ancak siberkondri ile ilgili literatürde sınırlı sayıda kaynak bulunmaktadır. Siberkondri hakkında yapılan yeni çalışmalar konu hakkında farkındalığı arttıracaktır ve Siberkondri davranışının belirlenmesine yardımcı olacaktır.[10]

MATERYAL VE METOT

Araştırmanın Amacı

Araştırma 18 yaş ve üzeri yetişkin bireylerin siberkondri düzeylerini ve etkileyen faktörleri incelemeyi amaçlayan tanımlayıcı ve kesitsel bir çalışmadır.

Araştırmanın Tasarımı

Araştırmanın verileri Ağustos-Kasım 2023 tarihleri arasında toplanmıştır. Anket soruları bireylere online olarak ulaştırılmış, çalışma hakkında kısa bir bilgi verilerek bireylerin onamları alınmıştır.

Evren ve Örneklemi

Araştırmanın evrenini İstanbul İlinde bulunan 18 yaş ve üzeri bireyler, örneklemi ise 18 yaş ve üzeri olan, araştırma kriterlerine uygun ve araştırmaya katılmayı kabul eden bireyler oluşturmuştur. Araştırmaya alınma kriterleri; 18 yaş ve üzeri, internet erişimi olan, interneti kullanan ve araştırmaya katılmayı kabul eden bireylerdir. Dışlanma kriterleri ise 18 yaş altı, okuma yazması olmayan, internet erişimi olmayan, internet kullanmasını bilmeyen ve görme problemi olan bireylerdir.

Veri Toplama Araçları

Verilerin toplanmasında "Kişisel Bilgi Formu", Siberkondri Şiddet Ölçeği" kullanılmıştır.

Kişisel Bilgi Formu: Araştırmacılar tarafından hazırlanan bireylerin sosyodemografik özelliklerini ve siberkondri ile ilgili tutum ve davranışlarını sorgulayan toplam 16 sorudan oluşturulmuş bir formdur.

Siberkondri Şiddet Ölçeği: Siberkondri bireyin internette aşırı aramalar yaparak sağlık durumuyla ilgili kaygısının artmasını ifade etmektedir. Siberkondri Şiddet Ölçeği'nin ilk hali McElroy ve Shevlin (2014) tarafından geliştirilmiştir.[11] Ölçek 5 alt boyuttan ve 33 maddeden oluşmaktadır. McElroy 2019 yılında geliştirdikleri ölçekte "Güvensizlik" alt boyutunu kaldırarak Siberkondri Şiddet Ölçeği'nin kısa formunu geliştirmiştir.[12] Türkiye'de Tuğtekin ve Barut Tuğtekin (2021), Yorgancıoğlu Tarcan et al., (2023) tarafından geçerlilik ve güvenirliliği yapılmıştır.[13,14] Form aşırılık, sıkıntı, güven verme, zorlama olmak üzere dört alt boyuttan ve 12 maddeden oluşmaktadır. Maddeler, 1 (Hiçbir zaman) ile 5 (Her zaman) arasında değişen beşli likert tipi ölçek kullanılarak puanlanmaktadır. Ölçeğin puan aralığı 12-60'dır. Ölçekten alınan yüksek puanlar siberkondri şiddetinin yüksek olduğunu göstermektedir. Bu çalışmada ölçeğin cronbach's alpha kat sayısı 0.886 olarak bulunmuştur.[13,14]

Veri Toplama Yöntemi

Anket soruları google form üzerinden hazırlanmıştır. Form hazırlanırken araştırma hakkında kısa bir bilgi verilerek, araştırma kriterlerine uymayan bireylerin araştırmaya katılmaması istenmiştir. Örneklem seçiminde kartopu yöntemi kullanılarak bireylere ulaşılmıştır. Kriterlere uygun bireylerden onam alınarak soruları yanıtlaması sağlanmıştır. Veriler toplanırken gönüllü katılımına ve veri gizliliğine dikkat edilmiştir. Bireylerin kimlik bilgileri alınmamıştır. Araştırma sorularına sadece bireyler, verilere sadece araştırmacılar ulaşmıştır.

Verilerin Analizleri

Veri analizleri bilgisayar ortamında, SPSS 22.0 istatistik paket programı kullanılarak yapılmıştır. Bireylerin tanımlayıcı özellikleri ve siberkondri tutum ve davranışları frekans ve yüzde kullanılarak değerlendirilmiştir. Verilerin Shapiro Wilk testi ile normal dağılımı değerlendirilmiş basıklık 0.13, çarpıklık 0.07 olarak bulunmuştur. Basıklık ve çarpıklık katsayıların +1.0 -1.0 arasında olduğu ve normal dağılım gösterdiği saptanmıştır.[15] Bağımsız iki grubun karşılaştırılmasında Independent-Samples T Testi, ikiden fazla bağımsız grubun karşılaştırılmasında ise One-Way Anova testi kullanılmıştır. Siberkondrinin yordayıcıları çoklu doğrusal regresyon analizi ile değerlendirilmiştir. Sonuçların değerlendirilmesinde % 95 güven aralığı, $p<0.05$ değerleri istatistiksel olarak anlamlı kabul edilmiştir.

Araştırmanın Etik Yönü

Çalışmanın yapılabilmesi için Helsinki Deklarasyonu ilkeleri doğrultusunda, İstanbul Gelişim Üniversitesi İnsan Araştırmaları Etik Kurulu'ndan 11.08.2023-06 tarih ve numaralı karar ile etik kurul onayı alınmıştır. Verileri toplamaya başlamadan önce, bireylere araştırmanın amacı hakkında bilgi verilip, kimliklerinin hiçbir şekilde açıklanmayacağı belirtilerek, bilgilendirilmiş gönüllü olurları alınmıştır.

Araştırmanın Kısıtlılıkları

Çalışma sadece İstanbul il sınırları içerisinde yapılmıştır. Araştırmaya 18 yaş ve üzeri yetişkin bireylerin katılımı amaçlanmış fakat daha çok genç bireyler araştırmaya katılmayı kabul etmiştir. Örneklem grubunda orta ve ileri yaş grupları azınlıkta kalmıştır.

BULGULAR VE TARTIŞMA

Bireylerin yaş ortalaması 26.98±8.9 (Min:22, Maks:64)'dur. Bireylerin %71.8'i kadın, %61.4'ü üniversite mezunu %59.1'nin geliri giderine eşit ve %85.9'nun kronik bir hastalığı yoktur. Bireylerin tanımlayıcı özellikleri Tablo 1'de sunulmuştur. Siberkondri Şiddet Ölçeği'nden 40 yaş altı bireylerin 40 yaş üstü olan bireylere göre daha yüksek puan aldıkları ve internette aramalar yaparak sağlık durumlarıyla ilgili kaygılarının daha fazla olduğu saptanmıştır ($p<0.05$). Siberkondri Şiddet Ölçeği'nden geliri

giderinden yüksek olan bireylerin geliri giderinden az ya da geliri giderine eşit olan bireylerden daha yüksek puan aldıkları ve internette aramalar yaparak sağlık durumlarıyla ilgili kaygının daha fazla olduğu saptanmıştır (p<0.05). Bireylerin diğer tanımlayıcı özellikleri ile Siberkondri Şiddet Ölçeği puan ortalamaları arasında anlamlı bir fark görülmemiştir (p>0.05) (Tablo 1).

Tablo 1. Bireylerin Tanımlayıcı Özelliklerinin Siberkondri Şiddet Ölçeği Puan Ortalamaları ile Karşılaştırılması

Özellikler		Siberkondri Şiddet Ölçeği			
		n	%	Ort±SS	p t[&]/ F[#]
Cinsiyet	Kadın	249	71.8	28.83±7.7	0.295
	Erkek	98	28.2	30.04±10.3	-1.051[&]
Yaş	40 yaş altı	291	83.9	29.64±8.5	**0.020**
	40 yaş ve üstü	56	16.1	26.75±8.3	**-2.346[&]**
Medeni durum	Evli	50	14.4	27.94±9.2	0.164
	Bekar	287	82.7	29.53±8.4	1.819[#]
	Boşanmış	10	2.9	25.30±5.8	
Eğitim	Okur yazar	2	0.6	26.50±12.0	0.497
		8	2.3	25.12±11.1	0.796[#]
	İlkokul	124	35.7	28.94±8.7	
	Lise	213	61.4	29.49±8.3	
	Üniversite				
Gelir durumu	Geliri giderinden az (a)	72	20.7	28.14±8.9	**0.016*** **4.217[#]** c>a=b[¶]
	Geliri giderine eşit (b)	205	59.1	28.65±8.2	
	Geliri giderinden yüksek (c)	70	20.2	31.75±8.7	
Kronik hastalık	Evet	49	14.1	28.88±9.3	0.807
	Hayır	298	85.9	29.22±8.4	-0.245[&]
Psikiyatrik hastalık	Evet	18	5.2	29.55±11.3	0.884
	Hayır	329	94.8	29.15±8.4	0.148[&]
Düzenli ilaç kullanımı	Evet	55	15.9	29.20±8.9	0.983
	Hayır	292	84.1	29.17±8.4	0.022[&]

*Not: [&] Independent-Samples T Testi, [#]One-Way Anova testi, [¶]PosthocTukeys HSD testi, *p<0.05;**p<0.01, ***p<0.001, Ort: Ortalama, SS: Standart sapma*

Hekime başvuru öncesi internette şikayetleri ile ilgili araştırma yapan bireylerin araştırma yapmayan ya da bazen yaptığını ifade eden bireylere göre Siberkondri Şiddet Ölçeği'nden daha fazla puan aldıkları ve siberkondri şiddetinin yüksek olduğu saptanmıştır (p<0.001). Hekimin verdiği tedaviye başlamadan önce internetten araştırma yapan bireylerin yapmayan ya da bazen yaptığını ifade eden bireylere göre Siberkondri Şiddet Ölçeği'nden daha fazla puan aldıkları ve siberkondri şiddetinin yüksek olduğu saptanmıştır (p<0.001). Son bir yıl içerisinde hekim önerisi dışında kendi isteğiyle ilaç alan bireylerin almayanlara göre Siberkondri Şiddet Ölçeği'nden daha fazla puan aldıkları ve siberkondri şiddetinin yüksek olduğu saptanmıştır (p<0.05). Günlük internette geçirdiği süre 3-4 saat ya da 5 ve üzeri olan bireylerin bir saatten az ya da 1-2 saat olanlara göre Siberkondri Şiddet Ölçeği'nden daha fazla puan aldıkları ve siberkondri şiddetinin yüksek olduğu saptanmıştır (p<0.01). Sosyal ağlar aracılığıyla sağlık konularından edindiği bilgilere güvenen bireylerin bilgilere güvenmeyen bireylere göre Siberkondri Şiddet Ölçeği'nden daha fazla puan aldıkları ve siberkondri şiddetinin yüksek olduğu saptanmıştır (p<0.001) (Tablo 2).

Tablo 2. Siberkondri ile ilgili Tutum ve Davranışların Siberkondri Şiddet Ölçeği Puan Ortalamaları ile Karşılaştırılması

Özellikler		Siberkondri Şiddet Ölçeği			
		n	%	Ort±SS	p t[&]/ F[#]
Son bir yıl içerisinde herhangi bir hekime başvuru sayısı	Hiç	31	8.9	28.32±9.3	0.819
	1-2 defa	158	45.5	28.97±8.4	0.309[#]
	3-4 defa	92	26.5	29.28±8.2	
	5 ve üzeri	66	19.0	30.00±8.9	
Hekime başvuru öncesi internette şikayetiniz ile ilgili araştırma yapma	Evet (a)	188	54.2	31.83±7.3	**0.000*** **29.349[#]**
	Hayır (b)	55	15.9	23.05±9.6	a>c>b[¶]
	Bazen (c)	104	30.0	27.60±7.8	
Hekimin verdiği tedaviye başlamadan önce internetten araştırma yapma	Evet (a)	164	47.3	31.61±7.4	**0.000*** **16.414[#]**
	Hayır (b)	84	24.2	25.53±9.8	a>c=b[¶]
	Bazen (c)	99	28.5	28.22±7.8	
Son bir yılda hekim önerisi dışında kendi isteğinizle tetkik yaptırma	Evet	109	31.4	30.59±7.4	0.036* 2.103[&]
	Hayır	238	68.6	28.53±8.9	
Son bir yıl içerisinde hekim önerisi dışında kendi isteğinizle ilaç alma	Evet	122	35.2	30.57±8.5	**0.024*** **2.269[&]**
	Hayır	225	64.8	28.42±8.4	

Tablo 2. (Devamı)

Kendi sağlık durumunuzu değerlendirme	Kötü	15	4.3	32.53±9.9	0.210
	Orta	187	53.9	29.36±8.2	1.569[#]

	İyi	145	41.8	28.59±8.3	
Günlük internette geçirdiğiniz süre	Bir saatten az (a)	9	2.6	28.89±8.8	**0.003** 4.736**[#]
	1-2 saat (b)	86	24.8	26.51±7.5	
	3-4 saat (c)	162	46.7	29.48±8.0	d=c>a=b[¶]
	5 ve üzeri (d)	90	25.9	31.20±9.6	
Sosyal ağlar aracılığıyla sağlık konularından edindiğiniz bilgilere güvenme	Evet	106	30.5	32.87±7.7	**0.000*** 5.625**[&]
	Hayır	241	69.5	27.54±8.3	

*Note: [&] Independent-Samples T Testi, [#]One-Way Anova testi, [¶]PosthocTukeys HSD testi, *p<0.05;**p<0.01, ***p<0.001*
Ort: Ortalama, SS: Standart sapma

Bireylerin Siberkondri Şiddet Ölçeği puan ortalaması 29,17±8.5 bulunmuş olup, ölçeğin alt boyutları puan ortalaması Tablo 3'te belirtilmiştir (Tablo 3).

Tablo 3. Siberkondri Şiddet Ölçeği ve Alt Boyutlarının Puan Ortalaması

Siberkondri Şiddet Ölçeği ve Alt Boyutları	n	Ort	SS	Min-Max
Zorlama	47	5.42	2.4	3-15
Aşırılık	47	9.01	2.9	3-15
Sıkıntı	47	7.14	2.6	3-15
Güven arayışı	47	7.62	2.7	3-15
Ölçek toplamı	47	29.17	8.5	12-60

Ort: Ortalama, SS=Standart Sapma, Min: Minimum, Max: Maksimum

Bireylerin aile gelir düzeyi, hekime başvuru öncesi internette şikayetleri ile ilgili araştırma yapma, internette günlük geçirdiği süre ve sosyal ağlara aracılığıyla sağlık konularından elde ettiği bilgilere güvenme değişkenleri siberkondri şiddet toplam varyansını %17 açıklamaktadır (r=0.41; R^2=0.17; p=0.001) (Tablo 4)

Tablo 4. Siberkondri Şiddetini Açıklayan Çok Değişkenli Doğrusal Regresyon Modeli (n=347)

R^2= 0.17		
Değişkenler	**β**	**p**
Gelir durumu	0.121	**0.015**
Hekime başvuru öncesi internette şikayetiniz ile ilgili araştırma yapma	0.205	**0.000**
Günlük internette geçirdiğiniz süre	0.165	**0.001**
Sosyal ağlar aracılığıyla sağlık konularından edindiğiniz bilgilere güvenme	0.244	**0.000**

Sağlık bilgilerinin çevrim içi araştırılması günlük yaşamın bir parçası haline gelmiştir. İnternette elde edilen asılsız, kanıtı olmayan bilgiler bireylerin tıbba, hekime olan güvenini zedelemektedir. Sadece internette okudukları bilgiler ile gereksiz yere tetkik yapan, kullandığı ilacı bırakmaya karar veren veya farklı bir ilaç kullanmaya başlayan bireylerin bu durumları sağlık hizmetlerinden gereksiz yaralanmalarına, tedavide olumsuz sonuçlara yol açabilmektedir. Sağlık bilgilerinin internette sıklıkla araştırılması bireyi hafif endişe durumundan patolojik kaygıya kadar götürebilmektedir. Bu araştırmanın amacı yetişkin bireylerin siberkondri düzeylerini ve etkileyen faktörleri belirlemektir.

Araştırmada 40 yaş altı bireylerin Siberkondri Şiddet Ölçeği'nden daha yüksek puan aldıkları ve internette aramalar yaparak sağlık durumlarıyla ilgili kaygılarının daha fazla olduğu saptanmıştır (p<0.05). İstanbul'da yaşayan 22-55 yaş aralığında 847 katılımcıyla yapılan çalışmada yaş seviyeleri düştükçe siberkondri düzeylerinin arttığı bulunmuştur.[16] İstanbul'da yaşayan 18-75 arası bireylerde en yüksek siberkondri düzeyinin Z kuşağında olduğu saptanmıştır.[8] Ülkemizde üniversite çalışanlarında yapılan

siberkondri düzeyinin incelendiği başka bir çalışmada 40 yaş altı bireylerin siberkondri düzeylerinin anlamlı bir farkla daha yüksek olduğu saptanmıştır.[17] Aile Sağlık Merkezlerine herhangi bir nedenle başvuran 18-75 yaş aralığındaki bireylerden 35 yaş altındaki grubun siberkondri puanlarının anlamlı seviyede yüksek olduğu belirlenmiştir.[18] Peng et al., (2021) Çin'de Nanyang şehrinde bölge sakinlerine yaptıkları çalışmada genç gruplarda siberkondri düzeyinin yüksek olduğunu tespit etmiştir.[19] Araştırmamız sözü edilen çalışma sonuçları ile tutarlık göstermektedir. Aynı zamanda araştırmamızdaki yaş ortalaması (26.98±8.9) dikkate alındığında katılımcıların çoğunluğunun genç bir gruptan oluşması ve internet kullanımının genç yaşlarda daha yüksek olması araştırma sonuçları üzerinde etkili olabilir.

Siberkondri Şiddet Ölçeği'nden geliri giderinden yüksek olan bireylerin internette aramalar yaparak sağlık durumlarıyla ilgili kaygılarının daha fazla olduğu saptanmıştır ($p<0.05$). Covid-19 epidemi dönemlerinde Çin'in Nanyang şehrinde bölge sakinlerine yapılan çalışma sonuçlarında gelir düzeyi yüksek olanların siberkondri düzeyleri de yüksek tespit edilmiştir.[19] Sağlık Bilimleri Fakültesi öğrencilerinde siberkondri düzeylerinin incelendiği başka bir çalışmada gelir düzeyi artıkça siberkondri düzeyinin arttığı bulunmuştur.[20] Adölesanlarda akıllı telefon bağımlılığı ve siberkondri arasındaki ilişkinin incelendiği çalışmada da yüksek sosyoekenomik gruplardaki bireylerin alt sosyoekonomik gruplardaki bireylere göre daha fazla sağlık bilgisi aradıkları ve siberkondri düzeylerinin yüksek olduğu belirlenmiştir.[21] Araştırma sonuçlarımız farklı popülasyonlarda siberkondri ile ilgili yapılmış çalışmalar ile tutarlılık göstermektedir. Aynı zamanda geliri yüksek olan bireylerin sağlık problemleri yaşadıklarında maddi imkanlarının el vermesi sebebiyle ne yapabilecekleri ile ilgili internette daha fazla sağlık aramaları yapmaları siberkondri düzeylerinin yüksek olmasına yol açmış olabilir.

Hekime başvuru öncesi şikayetleriyle ilgili internette araştırma yapan ve hekim önerisi olmadan kendi isteğiyle ilaç alan bireylerin siberkondri düzeylerinin daha fazla olduğu tespit edilmiştir (sırasıyla; $p<0.001$; $p<0.05$). Altındaş et al., 2018'te yaptığı çalışmada hekime başvurmadan önce şikayetleriyle ilgili internette arama yapan bireylerin siberkondri düzeylerini yüksek bulmuştur.[17] Doktor tavsiyesi olmadan internetteki bilgiye göre kendi isteğiyle ilaca başlayan bireylerin siberkondri düzeylerini yüksek bulan çalışmalara rastlanmıştır.[17,22] İstanbul'da 18-75 yaş aralığında bireylere yapılan çalışmada herhangi bir sağlık problemi ya da hastalıkları ile ilgili ilk internete başvuranların siberkondri düzeylerinin yüksek olduğu tespit edilmiştir.[8] İnternet sağlık hizmetlerinden yaralanmada hızlı, ulaşılabilir ve etkili bir araçtır. Araştırmada bireylerin büyük bir çoğunluğunun hekime başvurmadan önce şikayetleri ile ilgili internette arama yaptıklarını ifade etmiş olmaları siberkondri düzeylerinin yüksek olmasına yol açmış olabilir. Sağlık problemi yaşayan bireylerin hekime gitmeden önce ilk olarak internete başvurmaları endişeyi artırabilir ve siberkondri hastlığına yol açabilir. Bireylerin bilinçli bir internet kullanıcıları olmaları önemlidir.

Hekimin verdiği tedaviye başlamadan önce internette araştırma yapan bireylerin siberkondri düzeylerinin daha fazla olduğu tespit edilmiştir ($p<0.001$). Bu durum hekim-hasta ilişkisine, iletişimine bağlı olabilir. Hastanın hekime güvenmesi, sağlığı ile ilgili endişelerine cevap bulabilmesi ve yeterli bilgilendirilmesi önemlidir.

Araştırmada günlük internette geçirdiği süre fazla olan bireylerin siberkondri düzeylerinin daha yüksek olduğu saptanmıştır ($p<0.01$). Araştırma sonuçlarına benzer olan birçok çalışmaya rastlanmıştır.[19,22,23] Literatürde internette geçirilen süre ile siberkondri düzeyleri arasında anlamlı fark olmayan çalışmalarda bulunmaktadır.[16,17] Tarhan et al., (2021)'ın İstanbul'da 18-75 yaş grubu bireylerle yaptığı çalışmada ise bireylerin internete bağlanma süreleri arttıkça

siberkondri düzeylerinin düştüğü saptamıştır.[8] İnternette geçirilen sürede bireylerin bu zamanı nasıl geçirdiği önemlidir. Bu araştırmada bireylerin yarısına yakınının (%46.5) son bir yıl içerisinde sıklıkla (3-4 defa veya 5 ve üzeri) hekime gitmiş olması ve büyük bir çoğunluğun (%84.2) hekime başvuru öncesinde şikayetleriyle ilgi internette arama yaptıklarını bazen ya da evet şeklinde yanıtlamaları internette sıklıkla sağlıkla ilgili araştırmalar yapmalarına ve siberkondri düzeylerinin yüksek olmasına yol açmış olabilir.

Araştırmada sosyal ağlar aracılığıyla sağlık konularından edindiği bilgilere güvenen bireylerin siberkondri düzeylerinin daha yüksek olduğu saptanmıştır ($p<0.001$). Ülkemizde siberkondri ile ilgili yapılan ve örneklem grubu 18-65 ya da 18-75 yaş aralığı olan çalışmalarda sağlık konularından edindiği bilgilere güvenen bireylerin siberkondri düzeylerinin yüksek olduğu bulunmuştur.[8,17,18] Araştırma çalışma sonuçları ile paralellik göstermektedir.

Bireylerin Siberkondri Şiddet Ölçeği puan ortalaması 29.17±8.5 bulunmuştur. Ülkemizde ve bu araştırmadaki yaş aralığına benzer örneklem grubunda yapılan çalışmalarda siberkondri düzeylerinin orta seviyede olduğu bulunmuştur.[8,17,23] Çin'de yapılan bir çalışmada Nanyang bölge sakinlerinin siberkondri seviyelerinin 30.65±11.53 olduğu saptanmıştır.[19] Araştırmada ölçekten alınan puan aralığı dikkate alındığında bireylerin siberkondri düzeyleri orta düzeydedir. Araştırma sonuçları sözü edilen çalışmalar ile tutarlılık göstermektedir.

SONUÇ VE ÖNERİLER

Sonuç olarak bireylerin siberkondri seviyeleri orta düzeydedir. Geliştirilmiş doğrusal modele göre yüksek gelir, hekime başvurmadan önce şikayetleriyle ilgili internette aramalarda bulunma, gün içerisinde internette uzun süre vakit geçirme ve internette elde ettikleri bilgilere güvenme siberkondri düzeylerini artırmaktadır. Siberkondri düzeyini etkileyen faktörler göz önünde bulundurulduğunda; internette yer alan sağlıkla ilgili bilgilerin kalitesini artırmak, kanıta dayalı bilgilere yer verilmesini sağlamak önem arz etmektedir. Aynı zamanda siberkondri alışkanlığı olan bireylere danışmanlık hizmeti verilmesi, hekim hasta iletişiminin kuvvetli olması siberkondri düzeylerinin azalmasında etkili olacaktır.

KAYNAKLAR

1. Barke, A, Bleichhardt, G, Rief, W and Doering, B.K. (2016). "The Cyberchondria Severity Scale (CSS): German Validation and Development of a Short Form". Int J Behav Med. 23(5), 595-605. https://doi:10.1007/s12529-016-9549-8
2. Loos, A. (2013). "Cyberchondria: too much information for the health anxious patient?" J Consum Health Internet, 17(4), 439–45. https://doi.org/10.1080/15398285.2013.833452
3. Cline, R.J and Haynes, KM. (2001). "Consumer Health Information Seeking on the Internet: The State of the Art". Health Educ Res, 16(6), 671–92. https://doi.org/10.1093/her/16.6.671
4. Leykin, Y, Muñoz, R.F. and Contreras, O. (2012). "Are Consumers of Internet Health Information Bcyberchondriacs Characteristics of 24, 965 Users of a Depression Screening Site". Depress Anxiety, 29(1), 71–7. https://doi.org/10.1002/da.20848
5. McMullan, M. (2006). "Patients Using the Internet to Obtain Health Information: How This Affects the Patient–Health Professional Relationship". Patient Educ Couns. 63(1), 24–8. https://doi.org/10.1016/j.pec.2005.10.006
6. McManus, F, Leung, C, Muse, K. and Williams J.MG. (2014). "Understanding 'Cyberchondria': an Interpretive Phenomenological Analysis of the Purpose, Methods and Impact of Seeking Health Information Online for Those With Health Anxiety". Cogn Behav Ther. 2014;7:e21. https://doi: 10.17/S1754470X14000270.
7. Norr, A.M, Capron, D.W. and Schmidt, N.B. (2014). "Medical Information Seeking: Impact on Risk for Anxiety Psychopathology". J Behav Ther Exp Psychiatry. 45(3), 402–7. https://doi.org/10.1016/j.jbtep.2014.04.003Get rights and content
8. Tarhan, N, Tutgun-Ünal, A. ve Ekinci, Y. (2021). "Yeni Kuşak Hastalığı Siberkondri: Yeni Medya Çağında Kuşakların Siberkondri Düzeyleri ile Sağlık Okuryazarlığı İlişkisi". *OPUS* International Journal of Society Researches, 17(37), 4253-4297. https://doi: 10.26466/opus.855959
9. Baumgartner, S.E,. and Hartmann, T. (2011). "The Role of Health Anxiety in Online Health Information Search". Cyberpsychol Behav Soc Netw. 14(10), 613–8. https://doi.org/10.1089/cyber.2010.0425
10. Starcevic, V. And Berle, D. (2013). "Cyberchondria: Towards a Better Understanding of Excessive Health-related Internet Use". Exp Rev Neuro-therapy 13, 205-13. https://doi.org/10.1586/ern.12.162

11. McElroy, E. and Shevlin, M. (2014). "The Development and Initial Validation of the Cyberchondria Severity Scale (CSS)". Journal of anxiety disorders. 28(2), 259-265. http://dx.doi.org/10.1016/j.janxdis.2013.12.007
12. McElroy, E, Kearney, M, Touhey, J, Evans, J, Cooke, Y. and Shevlin, M. (2019). "The CSS-12: Development and Validation of a Short-form Version of The Cyberchondria Severity Scale". Cyberpsychology, Behavior, and Social Networking, 22(5), 330-335. http://doi: 10.1089/cyber.2018.0624
13. Tuğtekin, U. ve Tuğtekin, E.B. (2021). "Siberkondri Ciddiyet Ölçeği'nin Kısa Formunun Türkçeye Uyarlanması ve Öğretmen Adaylarının Aşırı Çevrim İçi Bilgi Arama Davranışları". Anemon Muş Alparslan Üniversitesi Sosyal Bilimler Dergisi, 9(6), 1747-1762. http://dx.doi.org/10.18506/anemon.963253
14. Tarcan, G.Y, Karahan, A. ve Sebik, N.B. (2023). "Kısa Form Siberkondri (CSS-12) Ciddiyet Ölçeğinin Geçerlik ve Güvenirliği: Sağlık Bilişimi Alanına Özel bir Uygulama". Hacettepe Sağlık İdaresi Dergisi, 26(1), 207-218.
15. Hair, J. F, Black, W.C, Babin, B.J, Anderson, R.E, and Tatham, R. L. (2013). "Multivariate Data Analysis". England/Landon: Pearson Education Limited.
16. Ekinci, Y, Tutgun-Ünal, A, Bayse, R, Ekinci, A. ve Tarhan, N. (2021). "Siberkondri, Sağlık Okuryazarlığı ve Sosyo-ekonomik Statü İlişkisi Bağlamında X ve Y Kuşağına Yönelik Bir Araştırma". İstanbul Arel Üniversitesi İletişim Çalışmaları Dergisi, 9(20), 117-148.
17. Altındiş, S, İnci, M.B, Aslan, F.G. ve Altındiş, M. (2018). "Üniversite Çalışanlarında Siberkondria Düzeyleri ve İlişkili Faktörlerin İncelenmesi". Sakarya Tıp Dergisi, 8(2), 359-370.
18. Özyurt Erdoğan, T. (2019). "İnternet ve Televizyonda Sağlık Bilgisi Arama Davranışı ve İlişkili Faktörler = Health Information Seeking Behaviour From Internet and Television and Related Factors". 10 (Özel sayı), 1-10. https://doi: 10.31832 smj.739127
19. Peng, X. Q, Chen, Y, Zhang, Y.C, Liu, F, He, H.Y, Luo, T, Dai P.P, Xie, W.Z. and Luo, A. J. (2021). "The Status and Influencing Factors of Cyberchondria During the COVID-19 Epidemic. A Cross-sectional Study in Nanyang City of China". Frontiers in Psychology, 12, 712703. https://doi: 10.3389/fpsyg.2021.712703
20. Ertaş, H, Kıraç, R. ve Ünal, S.N. (2020). "Sağlık Bilimleri Fakültesi Öğrencilerinin Siberkondri Düzeyleri ve İlişkili Faktörlerin İncelenmesi". *OPUS* Uluslararası Toplum Araştırmaları Dergisi, 15(23), 1746-1764. https://doi: 10.26466/opus.616396
21. Köse, S. and Murat, M. (2021). "Examination of the Relationship Between Smartphone Addiction and Cyberchondria in Adolescents". Archives of Psychiatric Nursing, 35(6), 563-570. https://doi.org/10.1016/j.apnu.2021.08.009
22. Uzun, S. and Zencir, M. (2022). "Cyberchondria and Associated Factors Among University Staff". ESTÜDAM Public Health Jounal, 7(2), 257-268. https://doi.org/10.35232/estudamhsd.1027589
23. Baştuğ, C., ve Eyılmaz Baştuğ, S. (2022) . "Öğretmenlerin Siberkondri (Çevrimiçi Sağlık Arama Davranışı) Düzeyi ve Etkileyen Faktörler". Route Education and Social Science Journal, 9(6), 283-300. http://dx.doi.org/10.17121/ressjournal.3287

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40-65 Yaş Aralığındaki Kadınlarda, Menopoz Sonrasında Serum Ferritin Düzeylerinin Metabolik Sendrom ile İlişkisi

Association of Serum Ferritin Levels with the Metabolic Syndrome in Postmenopausal Women between the Ages of 40 and 65 Years

Aybike RZALI[1] , Ülkü DEMİRCİ[2]

ÖZ

Bu araştırmada; menopoz dönemi sonrasında serum ferritin düzeyinin kadın bireylerde metabolik sendrom ile ilişkisinin değerlendirilmesi amaçlanmıştır. 5 ay sürmüş olan araştırmaya, 40-65 yaş aralığındaki 126 kadın birey katılmıştır. Veriler anket aracılığıyla yüz yüze olacak şekilde görüşme sağlanarak toplanmıştır. Anket içeriğinde; demografik bilgiler, antropometrik ölçümler, ilgili kan parametreleri, "Demir yönünden zengin besin tüketim sıklığı" ve "Menopoza Özgü Yaşam Kalitesi Ölçeği" bölümleri bulunmaktadır. Çalışmaya katılan kadınların BKİ ortalaması 33,28 kg/m2 olup, %68,3' ü birinci derecede obez kategorisinde bulunmaktadır. Ayrıca %95,2' si insülin kullanmadığını belirtmiştir. Bireylerde en fazla görülen kronik rahatsızlıklar, metabolik sendrom bileşenlerinden diyabet ve hipertansiyondur. Araştırma sonuçlarına göre; yaşam kalitesinin en fazla etkilendiği alanlar vazomotor ve fiziksel alanlardır. Bireylerin serum ferritin düzeyinin; total kolesterol ve LDL kolesterol düzeyleri arasında pozitif yönlü anlamlı ilişkisi bulunmuştur. Vücut ağırlıkları ve bel / kalça oranı ile serum ferritin düzeyi arasında negatif yönlü anlamlı ilişki saptanmıştır. Demir yönünden zengin besin tüketim sıklığı sonuçlarında, bireylerin %43,7' si haftada 5-6 kez olacak şekilde en çok yumurta tüketimi gerçekleştirmiştir. Tavuk eti tüketim sıklığı ile serum ferritin düzeyi ve yağlı tohumlar tüketim sıklığı ile serum demir düzeyi arasında anlamlı fark bulunmuştur. Bu çalışmaya göre, serum ferritin düzeyinin kısmen de olsa metabolik sendrom gelişimi ve bileşenlerinin kontrolü açısından önemli belirteç olabileceği düşünülmektedir.

Anahtar Kelimeler: Demir, Menopoz, Metabolik Sendrom, Serum Ferritin.

ABSTRACT

This study was conducted to evaluate the relationship between serum ferritin levels and metabolic syndrome in postmenopausal women. 126 women between the ages of 40-65 participated in the study, which lasted 5 months. Data were collected through a face-to-face interview using a questionnaire. The content of the questionnaire included demographic information, anthropometric measurements, related blood parameters, "frequency of consumption of iron-rich foods", and "Menopause Specific Quality of Life Scale". The mean BKI of the women participating in the study was 33,28 kg/m2, and 68.3% of them were in the first degree obese category. In addition, 95.2% reported not using insulin. The most common chronic diseases were diabetes and hypertension, which are components of the metabolic syndrome. According to the results of the scale used in the study, the areas where quality of life was most affected were the vasomotor and physical areas. A significant positive correlation was found between serum ferritin levels and total cholesterol and LDL cholesterol levels. A significant negative correlation was found between serum ferritin level and body weight and waist / hip ratio. Regarding the frequency of consumption of iron-rich foods, 43.7 % of the subjects consumed eggs 5-6 times per week. A significant difference was found between the frequency of consumption of chicken meat and serum ferritin level, and between the frequency of consumption of oilseeds and serum iron level. According to this study, it is believed that serum ferritin level may be an important marker for the development of metabolic syndrome and control of its components.

Keywords: Iron, Menopause, Metabolic Syndrome, Serum Ferritin.

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[1] Aybike RZALI, İstanbul Aydın Üniversitesi, Beslenme ve Diyetetik Bölümü, dyt.aybikerzali@gmail.com, ORCID: 0009-0005-6163-2137
[2] Dr. Öğr. Üyesi Ülkü DEMİRCİ, İstanbul Aydın Üniversitesi, Beslenme ve Diyetetik Bölümü, ulkudemirci@aydin.edu.tr, ORCID: 0000-0002-2842-920X

İletişim / Corresponding Author: Aybike RZALI
e-posta/e-mail: dyt.aybikerzali@gmail.com

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GİRİŞ

Metabolik Sendrom (MetS), gelişmekte olan ülkelerdeki yetişkin nüfusun yaklaşık %20-25'inin muzdarip olduğu; hipertansiyon, merkezi obezite, glukoz intoleransı, dislipidemi gibi metabolik risk unsurlarının birleştiği, tip 2 diyabet riskini arttıran ve kardiyovasküler hastalık riskini yaklaşık iki katına çıkaran çeşitli metabolik bozukluklar ve patolojik süreçlerin birlikteliğiyle karakterize edilmiş olan durumların bir kombinasyonudur.[1] Günümüzde özellikle kadınlarda metabolik sendrom görülme sıklığı hızla arttığı görülmektedir. Bu eğilim büyük oranda obezite durumundaki artıştan etkilenmektedir. Metabolik sendromun, hastalıklar ile ilişkisi göz önüne alındığında, sağlıklı olarak yaşlanmayı hedef alan her stratejide hayati bir konu olarak karşımıza çıkmaktadır.[2]

Kadınların yaşlanma süreci, fiziksel hareketliliği ve sağlık düzeyini etkileyen vücut kompozisyonundaki değişikliklerle ilişkilendirilmektedir. Çoğu çalışmalar, kadınların vücut yapılarındaki değişikliklerin menopoz varlığıyla örtüştüğünü öne sürmektedir. Menopoz dönemine geçiş, her kadının hayatında önem arz eden özellikle orta yaşlı kadınların genel sağlık durumu ve refahı için bir dönüm noktası olduğu bilinmektedir.[3-4] Bu süreç; üreme döneminin bittiğini, adet kanamalarının sonlanmasıyla ve östrojen gibi önemli hormonların azalmasıyla kendini belli eden doğal bir süreçtir.[5] Menopoz döneminde hormonal değişiklikler nedeniyle östrojen seviyelerindeki düşüş ve dolaşımdaki androjen seviyelerinin fazlalaşması gibi çeşitli lipid metabolizma bozuklukları ortaya çıkarak metabolik sendromların gelişmesine yol açabilir.

Lipid metabolizmasındaki düzensizlik, vücuttaki yağ kütlesini, yağ asitlerinin metabolizmasını ve obezite gibi çeşitli yönlerini etkilemektedir. Ayrıca menopoz, özellikle HDL (Yüksek Yoğunluklu Lipoprotein) ve LDL-C (Düşük Yoğunluklu Lipoprotein- Kolesterol) olmak üzere lipoprotein çeşitlerini ve trigliserid (TG) gibi kan damarlarında dolaşan çeşitli lipitlerin seviyelerindeki değişikliklerle de ilişkilidir.[6]

Menopoz sonrası kadınlarda; bel çevresi değerinin fazla olduğu, kan basıncı, hipertrigliseridemi, hipergliseminin arttığı ve HDL-C değerlerinin azaldığı görülmektedir; bu da kardiyovasküler olay riskinin artmasına neden olmaktadır. Bu nedenle, kardiyovasküler hastalıkları önlemek için menopoz sonrası dönemde metabolik sendromun bileşenlerinin yönetilmesi esas alınmalıdır.[7]

Demirin depolanmasında önemli bir protein olan Ferritin, demir dengesi ve hücresel fonksiyonların korunmasında rol oynamaktadır. İlgili araştırmalara bakıldığında tam olarak fikir birliği olmamakla birlikte anormal gözlemlenen serum ferritin düzeylerinin çeşitli hastalıklarla güçlü bir şekilde ilişkili olduğu görülmektedir.[8] Özellikle metabolik sendrom, iltihaplanma ve kanser gibi çeşitli hastalık faktörlerinin sonucu olduğu yönünde bulgular mevcuttur. Hastalık faktörlerinden öne çıkan obezite, insülin direnci ve tip 2 diyabet gibi çeşitli metabolik hastalıklarla ilişkili olduğu görülmektedir.[9] Serum ferritin, demirin vücuttaki dengesi için gereklidir ve toplam vücut demir durumunun infiltratif olmayan bir göstergesidir. Otoimmün bozukluklarda, çeşitli inflamasyon durumlarında, kardiyovasküler hastalık varlığında ve metabolik sendrom durumlarında serum ferritin düzeyi artmaktadır. Yakın zamanda yapılmış olan bir meta-analiz çalışmasında serum ferritin konsantrasyonunun; açlık plazma glukozu ve plazmadaki trigliserid düzeyiyle bağlantılı olduğu gösterilmiştir.[10]

Obez olan hastalarda serum ferritin düzeyleri yüksektir ve bu durum genellikle anormal kan lipid ve glukoz metabolizmasının eşlik etmesi sebebiyle obeziteye bağlı olabilir. Ayrıca obezite ve demir eksikliği anemisi, yetersiz beslenme çeşitliliğini temsil etse de, gelişmekte olan ülkelerde yapılan kesitsel çalışmalarda, obez kişilerde demir eksikliği riskinin arttığı ve serum ferritin düzeylerinin yüksek olduğu görülmektedir. Hemoglobin ve serum ferritin düzeylerine dayalı demir eksikliği anemisi görülme sıklığı 2008'den bu yana artmaktadır. Kilo artışı ve obezite

prevalansının artması nedeniyle zayıf demir durumunun yanı sıra aşırı kilo ve obezite özellikle yaşlı bireylerde kalıcı halk sağlığı sorunudur. Özetle obezite; yüksek serum ferritini, düşük serum demir ve hemoglobin seviyeleri gibi anemi inflamasyonunun özellikleriyle ilişkili olabilmektedir.[11]

Ayrıca bazı çalışmalarda, demir düzeyindeki azalmanın veya demir eksikliği anemisinin, kırmızı kan hücresi üretiminde azalma olduğunu ve bu durumun da kırmızı hücrelerinin ömrünü uzatarak glikosile edilmiş hemoglobinin anahtar formu olan HbA1c (Glikolize Hemoglobin) düzeylerinin artmasına yol açtığını gözlemlenmiştir.[12]

Kadınlar, hayatlarının ortalama üçte birinden fazlasını menopoz sonrası durumda geçirmektedirler. Menopoza geçiş ile beraber sağlıklı olan kadınlarda demir göstergeleri ve östrojen seviyeleri arasında senkronize ancak ters değişikliklerin meydana geldiği bilinmektedir. Yumurtalıkların işlevlerinin bitmesi nedeniyle östrojen hormonu azalırken, adet sürecinin sona ermesi sonucunda ise ferritin düzeyleri artmaktadır. Menopoz ile birlikte görülen östrojen hormonu seviyelerindeki bu düşüşle beraber; bel ve karın bölgesinde yağlanma ile kendini gösteren obezite, lipid metabolizmasındaki bozulmalar, diyabet ve kardiyovasküler hastalık riskleri gibi metabolik sendrom prevelansları artmaktadır. Vücutta demir durumunun önemli göstergelerinden olan serum ferritin düzeyi ile metabolik sendrom bileşenleri arasında ilişki bulunmaktadır. Bu ilişkinin değerlendirilmesi için ilgili kan parametrelerin doğru şekilde incelenmesi gerekmektedir. İlgili alanda yapılan birçok araştırmada, serum ferritin düzeyleri ile metabolik sendromun bileşenleri arasında bir ilişkinin olduğu görülmüştür.[13-15] Fakat ferritin düzeyleri ile metabolik sendromun bileşenleri arasındaki ilişkiyi menopoz süreci bağlamında inceleyen araştırma sayısı sınırlıdır.

Bu bağlamda araştırmada menopoz sürecindeki kadınlarda metabolik sendromun temel özelliklerini ve ferritin düzeylerini inceleyerek literatüre katkı sağlanması amaç edinilmiştir. Ayrıca, menopoz sürecindeki kadınlarda, demir açısından zengin besinleri tüketim sıklığının ve metabolik sendrom belirleyicisi olan çeşitli ölçümlerin (bel çevresi, bel / kalça oranı) etkisi ortaya konmaya çalışılmıştır.

MATERYAL VE METOT

Araştırmanın Modeli

Araştırma nicel araştırma yöntemleri kullanılarak gerçekleştirilmiş tanımlayıcı ve kesitsel tipte bir çalışmadır.[16]

Araştırmanın Evren ve Örneklemi

Araştırmanın çalışma evrenini İstanbul ilinde, Sultangazi Fatma Bedri Akman Aile Sağlığı Merkezi'ne kayıtlı bireyler oluşturmaktadır. Örneklemi ise, çalışma evreninden tabakalı tesadüfi örnekleme yöntemi ile seçilen 40-56 yaş aralığındaki kayıtlı menopoz sürecinde olan veya menopoz süreci bitmiş 126 kadın oluşturmuştur.

Gerekli örneklem sayısı G*Power 3.1.9 bilgisayar programı ile hesaplanmış ve minimum 125 birey olarak bulunmuştur.[17] Araştırma katılımcılarını belirleme kriterleri, çalışmaya alınma ve dışlanma ölçütlerini içermektedir. Çalışmaya katılabilmek için adayların okuryazar olmaları, etkileşime açık bir iletişim kurabilme yeteneğine sahip olmaları beklenmektedir.

Ayrıca, 40-65 yaş arasında ve kadın birey olmaları, Fatma Bedri Akman Aile Sağlığı Merkezi'ne kayıtlı olmaları gerekmektedir. Dışlanma kriterleri arasında ise kan kaybına yol açabilecek öyküye sahip olanlar, anket verilerini eksik dolduranlar, demir yetersizliği anemisi tanısı konmuş bireyler ve 40 yaşından küçük ile erkek bireyler bulunmaktadır.

Veri Toplama Araçları

Araştırmada veri toplama aracı olarak; genel bilgiler formu (sosyo-demografik özellikler, sağlık bilgileri, beslenme- egzersiz alışkanlıkları), antropometrik bilgiler, istenilen kan değerleri, demir yönünden zengin besin tüketim sıklığı kaydı ve

Menopoza Özgü Yaşam Kalitesi Ölçeği (MÖYKÖ) kullanılmıştır.

Menopoza Özgü Yaşam Kalitesi Ölçeği (MÖYKÖ)

Hilditch ve arkadaşları tarafından menopozal dönemdeki kadının yaşam kalitesini değerlendirmek için geliştirilerek standardize edilmiştir[18]. Menopozal dönemdeki kadınların yaşam kalitesi ve etkileyen faktörleri belirlemek için Şahin, Kharbouch ve Şahin tarafından 2007 yılında ise geçerlik ve güvenilirliği yapılarak Türkçe' ye uyarlanmış olan MÖYKÖ, 29 soru içeren likert tipte bir ölçektir.[19] Uyarlama çalışması yapan araştırmacılardan ölçek için gerekli izin mail yoluyla alınmıştır.

Vazomotor alan (1-3. sorular), psikososyal alan (4-10. sorular), fiziksel alan (11- 26. sorular) ve cinsel alan (27-29. sorular) olmak üzere dört alt alandan oluşmaktadır. Vazomotor alanda, sıcak basması ya da yüzde kızarıklık, terleme; psikososyal alanda, hayatından memnun olmama, endişeli ve gergin hissetme, hafızada zayıflama, depresif, hüzünlü ya da bezgin hissetme, yalnız kalma isteği; fiziksel alanda, gaz çıkarma ya da gaz ağrıları, bel, kas ve eklemlerde ağrı, uyuma güçlüğü, fiziksel güçte azalma, ciltte kuruluk, kilo alma, yüz tüylerinde artma, sık idrara çıkma, öksürürken ya da gülerken idrar kaçırma; cinsel alanda ise cinsel istekte değişiklik ve cinsellikten kaçınma gibi konulara yönelik sorular bulunmaktadır.

Kadınların son bir ay içerisinde yaşamış oldukları yakınmalar sorgulanmakta olup, sorulara "hayır" ya da "evet" şeklinde cevap alınarak; cevap "Evet" ise yakınmanın şiddeti 0–6 arasında puanlanmakta; 0 "hiç sıkıntı vermedi", 6 "aşırı sıkıntı verdi" olarak bireydeki rahatsızlığın boyutu sorgulanmaktadır. Puan arttıkça yakınmanın şiddetinin de arttığı gözlemlenmektedir [18]

Verilerin Analizi

Verilerin analizinde IBM SPSS 25.0 programı kullanılmıştır. Araştırma evreninde, değişkenlere ait ortalama ve standart sapma gibi betimleyici istatistiklerden yararlanılmıştır. Öncelik olarak Menopoza Özgü Yaşam Kalitesi Ölçeği'nin normal dağılım hipotezine uyup uymadığı, çarpıklık ve basıklık katsayılarına bakarak tespit edilmiş ve parametrik test yöntemleri tercih edilmiştir. Normal dağılım varsayımının; 'çarpıklık ve basıklık' değerlerine bakılarak değerlendirme şeklinin daha doğru bir yaklaşım olduğu değerlendirilmiştir [16]

Çarpıklıkla basıklık değerlerinin +1,5 ve -1,5 değerlerinin arasında olduğu hallerde normal dağılımın sağlandığını kabul edilmektedir.[20] Gerçekleştirilen analiz sonuçlarında değişkenlerin normal dağılım gösterdiği belirlenmiştir. Bu bağlamda Kikare testi, bağımsız örneklemler t-Testi, tek yönlü varyans analizi (ANOVA) ve Pearson Momentler Çarpımı Korelasyonu analizi teknikleri kullanılmıştır. Post Hoc testi için TUKEY HSD testi uygulanmış ve anlamlılık düzeyi $p<0,05$ olarak sınanmıştır.

Araştırmanın Etik Yönü

Veriler veri toplama araçları yoluyla Eylül 2023-Aralık 2023 tarihleri arasında uygulanmıştır. Türkçeye uyarlama çalışması yapılan ölçekle ilgili gerekli izinler mail yoluyla alınmıştır. Araştırmaya katılım gönüllülük esasına dayanmaktadır. Araştırma için İstanbul Aydın Üniversitesi Girişimsel Olmayan Klinik Araştırmalar Etik Kurulu tarafından **09.08.2023** tarih ve **B.30.2.AYD.0.00.00-050.06.04/89** sayılı kararla etik kurul izni alınmıştır.

BULGULAR VE TARTIŞMA

Çalışmayı oluşturmuş olan örneklemdeki kadınların yaklaşık olarak yarısı (43,7' si) , 55-65 yaş aralığındadır. Çoğunluğu (%92,9' u) evli olan bu bireylerin, %88,1' i ortaokul mezunudur. Bireylerin %85,7' si ev hanımı olup, %77,8' inin gelir durumlarının gelir ve

giderlerinin birbirine eşit veya fazla olduğu bulunmuştur.

Bireylerde kronik rahatsızlık durumu olarak en fazla görülen sağlık sorunları diyabet (%45,2) ve hipertansiyondur (%46,0). Ailedeki kronik rahatsızlık durumu olarak da aynı sağlık sorunları (diyabet %39, hipertansiyon %39) en fazla görülmüştür. Kadınların 37'sinin (%29,4) düzenli egzersiz yaptığı, 89'unun (%70,6) ise düzenli egzersiz yapmadığı görülmüştür. Düzenli egzersiz yapanların 12'si (%32,4) her gün, 14'ü (%37,8) haftada 3 günden fazla egzersiz yaptığı belirlenmiştir.

Bireylerin hesaplanan antropometrik ölçümlerin ortalamaları; vücut ağırlığı 84,89 kg, boy uzunluğu 159,68 cm, bel çevresi 111,92 cm, kalça çevresi 122,06 cm ve bel / kalça oranı 0,92 cm'dir.

Araştırmamızda kullanılan MÖYKÖ ölçeği'nde Cronbach's Alpha değerleri sırasıyla; vazomotor alanda 0,839, psikososyal alanda 0,757, fiziksel alanda 0,829, cinsel alanda ise 0,858 olarak tespit edilmiştir. Bireylerin verdikleri cevapların ortalaması $\bar{X}$=2,05 olarak bulunmuş olup alt alan kategorilerine verilen cevapların ortalamaları sırasıyla; vazomotor alan $\bar{X}$=2,87, psikososyal alan $\bar{X}$=1,65, fiziksel alan $\bar{X}$=2,30 ve cinsel alanda ise $\bar{X}$=1,38 olarak bulunmuştur. En fazla çıkan puan ortalamalarının vazomotor ve fiziksel alanda olduğu saptanmıştır.

Katılımcılara ait kişisel özellikler Tablo 1' de sunulmuştur.

Tablo 1. Kadınların Kişisel Özelliklerine Göre Dağılımları N=126

	Kişisel Özellikler	**n**	**%**
Medeni Durum	Evli	117	92,9
	Bekar	9	7,1
Eğitim Durumu	Ortaokul mezunu	111	88,1
	Lise ve üstü mezunu	15	11,9
Meslek Durumu	Ev hanımı	108	85,7
	Serbest meslek	8	6,3
	Memur	1	0,8
	Emekli	6	4,8
	İşsiz	3	2,4
Yaş	40-49	26	20,6
	50-54	45	35,7
	55-65	55	43,7
Gelir Durumu	Geliri giderinden az	28	22,2
	Geliri giderine eşit veya fazla	98	77,8
	Genel Sağlık Bilgiler	**n**	**%**
Kronik Rahatsızlık Durumu	Diyabet	57	45,2
	Kolesterol	64	50,8
	Kalp damar hastalıkları	34	27,0
	Hipertansiyon	58	46,0
	Karaciğer/safra/ Pankreas hastalıkları	11	8,7
	Tiroid hastalıkları	25	19,8
	Böbrek hastalıkları	6	4,8
	Nörolojik/psikolojik hastalıklar	12	9,5
	Kemik/eklem rahatsızlıkları	10	7,9
	Diğer	6	4,8
Tablo 1. (Devamı)			
Aile Kronik Rahatsızlık Durumu	Diyabet	39	31,0
	Hipertansiyon	39	31,0
	Kalp hastalıkları	32	25,4
	Diğer	27	21,4
İnsülin Kullanma Durumu	Evet	6	4,8

	Hayır	120	95,2
Doğum sayısı	3 ve daha az	54	42,9
	4 ve daha fazla	65	51,6
	Hiç	7	5,6
Düşük veya kürtaj ile sonuçlanan gebeliğin olma durumu	Evet	56	44,4
	Hayır	70	55,6
Düzenli jinekoloğa gitme durumu	Evet	42	33,3
	Hayır	84	66,7
Menopoz öncesi adet döngüsü (gün)	4 gün veya daha az	19	15,1
	5 gün veya daha fazla	107	84,9
Menopoz dönemine girilen yaş durumu	40-45	44	34,9
	46-49	41	32,5
	50-55	41	32,5
Menopoz öncesinde anemi (kansızlık) sorunu	Evet	60	47,6
	Hayır	66	52,4
	Antropometrik Değerler	**n**	**%**
Beden Kütle İndeksi (BKI)	Normal	3	2,4
	Fazla kilolu	37	29,4
	1. Derece Obez	86	68,3
Bel / Kalça Oranı	Normal	15	11,9
	Riskli	111	88,1

Tablo 2. Serum Ferritin, Serum Demir, Serum CRP ve Serum Hemoglobin Parametrelerine Göre Metabolik Sendrom ve Glisemik Kontrol Göstergelerden Elde Edilen Puan Ortalamalarının Karşılaştırılması

Değişkenler	**Ferritin Düzeyi**	**N**	**X̄**	**SS**	**F**	**p**
Total Kolestrol	$Düşük_a$	12	175,00	23,60	3,728	0,027*
	$Normal_b$	106	203,70	41,13		b,c>a
	$Yüksek_c$	8	219,13	24,99		
HDL-C	Düşük	12	50,72	13,81	0,627	0,536
	Normal	106	51,90	12,04		
	Yüksek	8	56,50	8,80		
LDL-C	$Düşük_a$	12	94,56	28,33	6,133	0,013*
	$Normal_b$	106	128,35	33,84		b,c>a
	$Yüksek_c$	8	135,88	22,00		
Trigliserid	Düşük	12	134,49	68,19	0,431	0,651
	Normal	106	145,03	60,64		
	Yüksek	8	128,00	28,17		
Açlık Kan Şekeri	Düşük	12	103,33	30,77	0,610	0,545
	Normal	106	112,98	32,66		
	Yüksek	8	105,75	34,33		
HbA1c	Düşük	12	6,08	0,99	0,029	0,971
	Normal	106	6,10	0,98		
	Yüksek	8	6,01	1,12		
Tablo 2. (Devamı)						
Değişkenler	**Demir Düzeyi**	**N**	**X̄**	**SS**	**F**	**p**
Total Kolestrol	Düşük	7	178,00	59,17	1,465	0,235
	Normal	117	203,59	38,31		
	Yüksek	2	189,50	60,10		

HDL-C	Düşük	7	48,98	14,82	0,724	0,487
	Normal	117	52,40	11,93		
	Yüksek	2	44,00	1,41		
LDL-C	Düşük	7	102,71	43,41	1,723	0,183
	Normal	117	127,07	33,02		
	Yüksek	2	120,50	62,93		
Trigliserid	Düşük	7	166,29	74,95	1,605	0,205
	Normal	117	140,55	58,07		
	Yüksek	2	201,50	98,29		
Açlık Kan Şekeri	Düşük	7	109,19	49,42	0,025	0,976
	Normal	117	111,70	31,71		
	Yüksek	2	113,95	23,97		
HbA1c	Düşük	7	6,44	1,30	0,029	0,971
	Normal	117	6,08	0,97		
	Yüksek	2	5,80	-		
Değişkenler	**Crp Düzeyi**	**N**	**X̄**	**SS**	**F**	**p**
Total Kolestrol	Normal	87	198,00	36,08	-1,667	0,098
	Yüksek	39	210,75	46,79		
HDL-C	Normal	87	53,00	12,78	1,286	0,201
	Yüksek	39	50,03	9,93		
LDL-C	Normal	87	122,96	32,34	-1,303	0,195
	Yüksek	39	131,51	37,61		
Trigliserid	Normal	87	135,76	56,25	-2,042	0,043*
	Yüksek	39	158,97	64,74		
Açlık Kan Şekeri	Normal	87	107,92	25,55	-1,920	0,057
	Yüksek	39	119,81	43,53		
HbA1c	Normal	87	6,07	0,95	-0,302	0,763
	Yüksek	39	6,13	1,06		
Değişkenler	**Hemoglobin Düzeyi**	**N**	**X̄**	**SS**	**F**	**p**
Total Kolestrol	Düşük	19	191,47	37,81	-1,243	0,216
	Normal	107	203,81	40,20		
HDL-C	Düşük	19	50,17	10,65	-0,749	0,456
	Normal	107	52,42	12,25		
LDL-C	Düşük	19	115,44	35,31	-1,414	0,160
	Normal	107	127,41	33,78		
Trigliserid	Düşük	19	141,24	82,31	-0,134	0,893
	Normal	107	143,25	55,28		
Açlık Kan Şekeri	Düşük	19	102,95	27,87	-1,263	0,209
	Normal	107	113,14	33,12		
HbA1c	Düşük	19	6,00	0,78	-0,445	0,657
	Normal	107	6,11	1,02		

*p<0,05

Tablo 2' ye göre; Serum Ferritin Parametresi ile Total Kolesterol ortalamaları (F:3,728, p<0,05) ve LDL ortalamaları (F:6,133, p<0,05) arasında anlamlı bir fark varken; diğer parametreler arasında (HDL, Trigliserid, Açlık Kan Şekeri, HbA1c) anlamlı bir fark olmadığı belirlenmiştir (p>0,05).

Normal (203,70) ve yüksek (219,13) Total Kolestrole sahip olan kadınların Serum Ferritin oranının, düşük Total Kolestrole sahip olan kadınların Serum Ferritin oranından (175,00) daha yüksek olduğu belirlenmiştir.

Normal (128,35) ve yüksek (135,88) LDL'ye sahip olan kadınların Serum Ferritin oranının, düşük LDL'ye sahip olan kadınların Serum Ferritin oranından (94,56) daha yüksek olduğu belirlenmiştir.

Serum demir Parametresi ile Metabolik Sendrom ve Glisemik Kontrol parametreleri (Total Kolesterol, HDL, LDL, Trigliserid, Açlık Kan Şekeri, HbA1c) arasında anlamlı bir fark olmadığı belirlenmiştir (p>0,05).

Serum CRP Parametresi ile Metabolik Sendrom ve Glisemik Kontrol parametreleri arasında anlamlı bir fark olmadığı belirlenirken (p>0,05) ; sadece trigliserid arasında anlamlı bir fark olduğu (t:-2,042) görülmüştür.

Tablo 3. Serum Demir Göstergeleri ile Metabolik Sendrom Glisemik Kontrol Göstergeleri, Vücut Ağırlığı, BKİ, Bel Çevresi, Bel / Kalça Oranı Arasındaki İlişkiye Yönelik Bulgular

		Ferritin	Demir	Crp	Hemoglobin
Açlık Kan Şekeri	rho	0,073	0,029	0,028	0,198*
	p	0,418	0,746	0,752	**0,026**
HDL-C	rho	0,111	-0,054	0,006	-0,105
	p	0,216	0,545	0,951	0,240
LDL-C	rho	0,205*	0,022	0,111	-0,052
	p	**0,021**	0,803	0,215	0,566
Total Kolestrol	rho	0,223*	0,073	0,108	-0,037
	p	**0,012**	0,418	0,231	0,678
Trigliserid	rho	-0,012	0,048	-0,020	0,064
	p	0,892	0,593	0,824	0,474
Vücut Ağırlığı (kg)	rho	-0,191*	0,111	-0,060	-0,118
	p	**0,032**	0,217	0,503	0,189
Beden Kütle İndeksi (kg/m2)	rho	-0,157	0,040	-0,050	-0,064
	p	0,079	0,656	0,581	0,474
Bel Çevresi (cm)	rho	-0,153	0,044	-0,098	-0,039
	p	0,088	0,627	0,273	0,663
Bel / Kalça Oranı	rho	-0,201*	-0,059	0,004	0,051
	p	**0,024**	0,513	0,960	0,572

Kadınların açlık kan şekeri düzeyi ile serum hemoglobin düzeyi arasında pozitif yönlü istatistiksel olarak anlamlı ilişki tespit edilmiştir (p=0,26 ve r=0,198).

LDL kolesterol düzeyi ile serum ferritin düzeyi pozitif yönde istatistiksel olarak anlamlı çıkmıştır (p=0,021; r=0,205).

Total kolesterol düzeyi ile serum ferritin düzeyi arasında pozitif yönlü istatistiksel olarak anlamlı ilişki tespit edilmiştir (p=0,021; r=0,223).

Kadınların vücut ağırlıkları ile serum ferritin düzeyi arasında negatif yönlü istatistiksel olarak anlamlı ilişki tespit edilmiştir (p=0,032; r=-0,191).

Kadınların bel / kalça oranı ile serum ferritin düzeyi arasında negatif yönlü istatistiksel olarak anlamlı ilişki tespit edilmiştir (p=0,024; r=-0,201).

Tablo 4. Serum Demir Parametrelerinin Demir Yönünden Zengin Besin Tüketim Sıklığı Açısından İncelenmesine İlişkin Bulgular

BESİNLER	Ferritin	Demir	Crp	Hemoglobin
	*p	*p	*p	*p
Kırmızı Et	0,617	0,512	0,896	0,603
Tavuk Eti	**0,001**	0,303	0,663	0,891
Koyu Yapraklı Sebzeler	0,420	0,898	0,699	0,427
Yumurta	0,474	0,942	0,892	0,691
Kuru Üzüm	0,362	0,578	0,338	0,834
Kuru Kayısı	0,810	0,328	0,536	0,736
Yağlı Tohumlar	0,191	**0,022**	0,883	0,620
Kabak Çekirdeği	0,080	0,774	0,556	0,787
Balık	0,397	0,880	0,462	0,958
Şeftali	0,122	0,565	**0,041**	0,824
Armut	0,271	0,126	0,963	0,945
Pancar	0,227	0,070	0,239	0,902
Hurma	0,170	0,514	0,935	0,504
Keçiboynuzu Pekmezi	0,956	0,916	0,195	0,876
Kurubaklagiller	0,875	0,630	0,503	0,888
Kabuklu Deniz Ürünleri	0,142	0,925	0,340	0,796

Kadınların demir yönünden zengin besinleri tüketim sıklıklarının sonuçlarında; %49,2' sinin kırmızı eti, % 58,7' sinin beyaz eti, % 49,2' sinin koyu yapraklı sebzeleri, %42,9' unun balığı, % 39,7' sinin armudu, % 46' sının kurubaklagilleri haftada 1-2 kez tükettiği, % 43,7' sinin yumurtayı haftada 5-6 kez tükettiği, %46' sının yağlı tohumları, %38,4' ünün hurmayı ayda 1-2 kez tükettiği, %98,4' ünün kabuklu deniz ürünlerini, %55,6' sının keçiboynuzunu, %50' sinin pancarı, %41,3' ünün şeftaliyi, % 65,9' unun kabak çekirdeğini, %43,2 'sinin kuru kayısıyı, %41,9' unun kuru üzümü hiç tüketmediği saptanmıştır.

Tablo 4' te besin tüketim sıklıkları ile serum demir göstergeleri arasındaki dağılımları arasındaki istatistiksel anlamlılık düzeyleri gösterilmiştir:

- Tek başına tavuk eti tüketim sıklığı ile serum ferritin düzeyi arasında ($p<0,05$) ,
- Yağlı tohumlar tüketim sıklığı ile serum demir düzeyi arasında ($p<0,05$) ,
- Şeftali tüketim sıklığı ile serum CRP (C-Reaktif Protein) düzeyi arasında ($p<0,05$) istatistiksel olarak anlamlı fark bulunmaktadır.

Bu araştırma; 40-65 yaş aralığında bulunan ve menopoz sonrası dönemde olan kadınların serum ferritin düzeylerinin metabolik sendrom ile ilişkisinin değerlendirilmesi hedef alınarak yapılmıştır.Menopoz geçiş sürecinde olan kadınlarda çeşitli semptomlar görülebilir ve bu durumlar morbidite üretmek için oldukça elverişlidir. Gözlemlenen bu semptomlar arasında en sık bildirilenleri; vazomotor semptomlardır. Ancak vajinada kuruluk, ağrılı cinsel ilişki, uyku güçlüğü ve ruh halinin kötüleşmesi gibi değişikliklerin; kadınlarda menopoz dönemine yaklaştıkça veya menopoz sonrası ilk zamanlarda olumsuz yönde ilerlediği görülmektedir.Avusturalya'da menopoz sonrası oluşan semptomları incelemek için 386 kadın üzerinde yapılmış olan çalışmada, katılanların % 72' si hafıza durumlarında gerileme olduğu bildirilmiştir. Uyku güçlüğü ile ilgili çıkan çalışma sonuçları ise, adet sürecinde oldukları dönemdeki gece uykularına göre, yaklaşık 25 dakika kadar uyku kaybının olduğu yönündedir.[3] Obezite; tip 2 diyabet, kardiyovasküler hastalıklar, metabolik sendrom ve gibi çeşitli bozukluklar için öncül bir durumdur. Orta yaştaki kadınlarda kilo artışı genellikle görülmektedir. Bununla beraber, menopoz dönemindeki kadınlar arasında obezitenin artmasının nedenleri tam olarak anlaşılamamakla beraber çelişkilidir. Çalışmamızda kullanılan ölçekte en çok fiziksel alan ortalamasının yüksek çıktığı gözlemlenmiştir. Ölçekteki bu alanda en çok işaretlenen cevap ise bireylerin uyku güçlüğü çektiği yönündedir.Menopozal kadınlar arasında obezitenin artmasının en önemli nedenlerinden biri östrojen seviyesinin azalmaya başlamasıdır. Ayrıca, bazı çalışmalarda östrojen eksikliğinin metabolik disfonksiyonu arttırdığını ve bireyi tip 2 diyabet, metabolik sendrom ve kalp damar hastalıklarına yatkın hale getirdiğini bildirilmiştir. Orta yaşlarda enerji harcamalarındaki azalmanın menopoz sırasında obeziteye neden olabileceği düşünülmektedir. Dört yıllık takip çalışması sonucuna göre, menopoz geçiren kadınların enerji harcamalarının, premenopozal kadınlara göre daha fazla azalma gösterdiği saptanmıştır.[6] Çalışmamıza katılan bireylerin %68,3' ünün obez olduğu ve fiziksel aktivite yapma oranlarının düşük olduğu saptanmıştır. Bu nedenle obezite durumu ve enerji harcamalarının az olması menopozun varlığını göstermektedir. 40-60 yaş arasında olan 816 kadından oluşan bir başka çalışmada; menopoz evreleri baz alınarak incelenme yapılmış olup; referans olarak doğal menopoz süreci (49-51 yaş) gerçekleşen kadınlar üzerinde araştırma yapılmıştır. Çıkan sonuçlarda ise post menopozal grupta olanların trigliserid, HDL ve LDL-C değerlerinin menopoz öncesi gruba göre önemli ölçüde daha yüksek olduğu saptanmıştır. Ayrıca kardiyovasküler

risk biyobelirteçlerinden önemli olan CRP değerinin de postmenopozal gruptaki kadınlarda, menopoz öncesi gruptaki kadınlara göre anlamlı seviyede yüksek olduğu gözlemlenmiştir.[21]

45-65 yaş aralığında bulunan 56' sı menopoz öncesi ve 89' u postmenopozal olan 145 kadının dahil edildiği kesitsel bir başka çalışmada; hastaların lipid profilleri, CRP ve bel çevresi değerleri açısından değerlendirilmesi amaçlanmıştır. Elde edilmiş olan bulgularda postmenopozal hastalarda CRP değerleri daha yüksek olarak (3,6 ± 4,9'a karşı 2,6 ± 3,7, p = 0,004), bel çevresi (r = 0,13, p = 0,005) ve trigliserid değerleri (r = 0,50, p = 0,01) ile pozitif yönde ilişki göstermiştir. Menopoz durumunun (p = 0,02) ve bel çevresi değerinin (p = 0,00003), CRP seviyelerinin bağımsız belirleyicileri olarak davrandığı düşünülmüştür.[22] Araştırmamızda elde edilen CRP değerlerinin bel çevresi veya ilgili kan parametreleriyle pozitif bir ilişkisi saptanmamıştır.

45 – 64 yaş aralığında 373 menopoz dönemindeki kadınlardan oluşan kesitsel olarak yapılmış bir çalışmada; kilo alımında artış ile birlikte obezite, hipertansiyon, diyabet gibi MetS bileşenlerindeki görülen bozuklukların sıklığı diğer çalışmalara göre farklı olarak fiziksel aktivite seviyeleriyle ilişkilendirilmiştir. Çıkan sonuçlarda bu bozukluğun postmenopozal kadınlarda düşük fiziksel aktivite seviyesine sahip olanlarda, orta ve yoğun fiziksel aktivite seviyelerine sahip olanlardan daha yüksek olduğu görülmüştür.[23] Çin'in kuzeybatısında benzer bir çalışmada 45 ile 60 yaş arasındaki kadınlarda fiziksel aktivite ile menopoz semptomlarının şiddeti arasındaki ilişki incelenmiştir. Çıkan analizlerde, yüksek fiziksel aktivite seviyesinin, daha az şiddetli menopoz semptomlarıyla ilişkili olduğu gözlemlenmiştir.[24] Çalışmamızda fiziksel aktivite yapan bireylerin sayısının az olduğu bulunmuştur. Düzenli egzersiz yapanların haftada 3 günden fazla olacak şekilde yoğun bir programda yapmış oldukları saptanmıştır.

Çin'in batı Sincan bölgesinde tip 2 diyabet incelemesi üzerine yapılmış olan retrospektif bir çalışmda; yaş, ailede diyabet öyküsü, bel çevresi, total kolesterol, trigliserid, BKİ, HDL kolesterol ve önceden bulunan hipertansiyon öyküsünün açlık kan şekeri üzerinde önemli bir etkiye sahip olduğu gözlemlenmiştir. Ayrıca HbA1c' yi tahmin etmek için bel çevresinin ve BKİ' nin anormal HbA1c seviyeleri ile ilişkili olduğunu da gözlemlemişlerdir. Yaş, ailede diyabet öyküsü, CRP ve trigliserid değerleri, yüksek HbA1c düzeyleriyle anlamlı şekilde ilişkili olduğu çalışma sonuçlarına göre söylenmiştir.[25] Araştırmamıza katılan bireylerin ailelerinde de diyabet ve hipertansiyon öyküsü bulunmaktadır. Demir durumu göstergeleri için serum ferritin değerinin ölçümü yaygın olarak kullanılmaktadır. İlaveten, iltihaplanma ve çeşitli hastalıklarla başa çıkmak için serum ferritin seviyeleri önemli ölçüde artabilmektedir. Serum ferritin seviyelerinin yükselmiş olması, tip 2 diyabet ve kardiyovasküler hastalık gibi kronik hastalıklarla yakından ilişkilendirilmektedir. İngilterede 2013-2020 yılları arasında 8163 bireyin katılımıyla yapılan araştırmada; serum ferritin seviyeleri ile HDL kolesterol arasında negatif bir ilişki olduğu bulunurken, total kolesterol ve LDL-C arasında ise pozitif bir ilişki gözlemlenmiştir. Ayrıca serum ferritinin, BKI ve bel / kalça oranı arasında pozitif yönlü anlamlandırılan ilişkilendirme de mevcut sonuçlarda saptanmıştır.[15] Çalışmamızda ise serum ferritin değeri normal aralıklarında çıktığı için; bel / kalça oranı arasında negatif yönlü bir ilişkilendirme bulunmuştur.

Metabolik sendromu olan ve olmayan kişilerin kan parametreleri ve oksidatif stres biyobelirteçlerinin karşılaştırıldığı; metabolik sendrom ve serum ferritin değerleri arasındaki ilişkiyi değerlendiren 2006 ile 2014 yılları arasında yayınlanan makalelerin analizlerinde; LDL-C, HbA1c gibi sağlık parametrelerinin çoğu, serum ferritin değeri yüksek olan Metabolik sendromlu kişilerde, olmayanlara kıyasla önemli oranda daha yüksek olduğu saptanmıştır. Oksidatif stresle ilişkili metabolik parametrelere göre ise CRP

ve ferritin değerleri; MetS'li tanılı olanlarda MetS'li olmayanlara göre anlamlı derecede yüksek olduğu bulunmuştur.[13]

Serum ferritin değerleriyle glisemik kontrol arasında anlamlı bir ilişki bulunmaktadır. Kuzey Hindistan'da bir hastanenin dahiliye bölümünde 2019-2020 yılları arasında 100 hastanın katılımıyla yürütülen araştırmada, hasta bireylerin lipit değerleri, sağlıklı kontrol gruplarına göre anlamlı derecede farklı olduğu gözlemlenmiştir. Ortalama olan serum toplam kolesterolü (229,82 ± 45,08) , LDL-C (128,59 ± 32,54) ve trigliserid (161,86 ± 27,11) değerlerini metabolik sendrom tanılı ve normal hastalarla karşılaştırıldığında, metabolik sendromu olan bireylerde değerlerin anlamlı derecede yüksek olduğu gözlemlenmiştir.[14]

2016 yılında Ukrayna'da 4205 kişinin katıldığı, katılan bireylerin büyük oranı kadın olan (3139) bir çalışmada, serum ferritin düzeyleri, trigliserid, total, LDL ve HDL kolesterol değerleri geçmişe dönük olarak incelenmiştir. Özellikle 50-70 yaş aralığında kadınların total kolesterol ve LDL-C değerleri, erkek bireylere göre anlamlı olarak yüksek bulunmuştur ($p<0,01$). Serum ferritin düzeyleri ise kadınlarda yaşla birlikte artma eğilimi göstermektedir. Korelasyon analizleri serum ferritin ve HDL seviyeleri arasında negatif bir ilişki olduğunu gösterirken; total kolesterol, trigliserid ve LDL seviyeleri arasında ise pozitif yönde ilişkiler ortaya çıkmıştır.[26]

Menopoz süreci ve element seviyelerinin Metabolik sendrom riski üzerinde ilişkisinin varlığı 170 birey üzerinde incelenmiştir. Çıkan sonuçlar; menopoz sonrası kadınlardaki demir eksikliği riskinin, menopoz öncesi kadınlardan daha düşük olduğunu göstermiştir. Serum ferritin düzeylerinde artışla menopoz öncesi ve sonrası kadınlarda Metabolik sendrom riski artmıştır. Ayrıca, serum ferritin düzeyleriyle tip 2 diyabet ve Metabolik sendrom arasında, karaciğer fonksiyon bozukluğu arasında minimal bir ilişkinin olabileceği düşünülmektedir.[27]

Çalışmamıza katılan bireylerin, demir yönünden zengin olan bazı besinleri tüketimi anlamlı düzeyde olduğu için; demir eksikliği olmadığı veya kan değerlerindeki demir parametrelerinin ideal aralıklarda olduğundan dolayı eksikliğin olmadığı düşünülmektedir. MetS riski varlığının; tanı kriterlerindeki önemli bazı kan parametrelerinin (Açlık kan şekeri, HDL) normalden yüksek çıkması ve bel / kalça oranının riskli değerlerde olduğundan dolayı gözlemlendiği düşünülmektedir.

SONUÇ VE ÖNERİLER

Araştırmadan elde edilen sonuçlara bakıldığında;

1. Toplam kolesterol ve LDL değerlerinin ortalamalarıyla serum ferritin düzeyleri arasında istatistiksel olarak anlamlı fark saptanırken; HDL, trigliserid, açlık kan şekeri, HbA1c değerleri arasında anlamlı bir fark saptanmamıştır ($p>0,05$).
2. Çalışmada metabolik sendroma ilişkin glisemik kontrol parametreleri olarak kategorize etmiş olduğum total kolesterol, HDL-C, LDL-C, trigliserid, açlık kan şekeri ve HbA1c değerleri ile serum demir düzeyleri arasında istatistiksel olarak anlamlı bir fark bulunmamaktadır ($p>0,05$).
3. Çalışmada; total Kolesterol, HDL-C, LDL-C, trigliserid, açlık kan şekeri ve HbA1c değerleri ile serum CRP düzeyinin arasında anlamlı bir fark olmadığı ($p>0,05$) bulunurken, sadece trigliserid değeri arasında anlamlı bir fark saptanmıştır (t:-2,042).
4. Serum hemoglobin değerinin; incelenen kan parametrelerinden total kolesterol, trigliserid, HDL ve LDL-C, açlık kan şekeri ve HbA1c değerleriyle

aralarında anlamlı bir fark olmadığı saptanmıştır.

5. Bireylerin serum demir göstergeleri olarak kategorize edilmiş olan ferritin, demir, CRP ve hemoglobin değerleriyle açlık kan şekeri, total kolesterol, trigliserid, HDL ve LDL-C değerleri arasında ilişkiye istatistiksel olarak bakıldığında:

- Açlık kan şekeri değeri ile hemoglobin düzeyi,

- LDL-C değeri ile serum ferritin düzeyi,

- Total kolesterol ile serum ferritin düzeyi arasında pozitif yönde istatistiksel olarak anlamlı ilişki saptanmıştır.

6. Kadınların vücut ağırlıkları ve bel / kalça oranları ile serum ferritin düzeyleri arasında negatif yönlü anlamlı ilişki bulunmuştur.

7. Günlük olarak tüketilen ana öğün sayısı, düzenli olarak egzersiz yapma sıklığı, düşük / kürtaj ile sonuçlanmış olan gebelik durumunun olma durumu, menopoz dönemi öncesinde kansızlık sorunu olup olmaması durumu ve bel / kalça oranları arasında ise Menopoza Özgü Yaşam Kalitesi Ölçeği (MÖYKÖ)' ndeki hiçbir alt grupları arasında anlamlı bir farklılık saptanmamıştır ($p>0,05$).

8. Menopoza Özgü Yaşam Kalitesi Ölçeği' ni alt boyutlarına göre ayırmadan toplam puan ortalamasına bakıldığında; yaş ve gelir durumu, düzenli egzersiz yapma ve jinekoloğa gitme durumu, menopoz dönemine girilen yaş ile anlamlı bir fark olduğu belirtilmiştir:

- 55-59 yaş aralığındaki kadınların, 50-54 yaş aralığındakilere göre,

- Geliri giderinden az olanların, geliri giderlerinden fazla olanlara göre,

- Düzenli egzersiz yapmayanların, düzenli egzersiz yapanlara göre,

- Düzenli jinekoloğa gitmeyenlerin, düzenli jinekoloğa gidenlere göre,

- 40-49 yaş aralığında menopoza girenlerin, 50-55 yaş aralığında menopoza girenlere göre MÖYKÖ puan ortalamasının daha yüksek olduğu saptanmıştır.

Menopoz dönemi, yaşlanma süreciyle birlikte ilerlediği için yaşam kalitesinin arttırılmaya çalışılması ve sağlığın korunması son derece önemlidir. Menopoz sürecine giren kadınlarda östrojen hormonunun görevinin azalmasıyla beraber demir ve metabolik sendroma ilişkin kan parametrelerinin ve beden kütle indeksi, bel çevresi, bel / kalça oranı gibi antropometrik ölçümlerinin; sağlık durumunun iyileştirilmesi ve kronik hastalıkların olumlu yönde yönetilmesi için takip edilmesi gereklidir.

Bu döneminde her ne kadar demir kaybı azalmış olsa dahi serum demir göstergeleri üzerinde birden çok etken rol almaktadır. Özellikle serum ferritin düzeyinin metabolik sendrom bileşenleriyle olan ilişkisinin sonuçları tam anlamıyla tutarlı değildir. Menopoz döneminde olan kadınlarda serum ferritin düzeylerinin metabolik sendrom üzerindeki etkisini netleştirebilmek için daha fazla katılımcıya ulaşılarak epidemiyolojik çalışmaları bu yönde destekleyecek daha çok çalışmaya ihtiyaç bulunmaktadır.

KAYNAKLAR

1. Kumari, R., Kumar, S., & Kant, R. (2019). "An Update on Metabolic Syndrome: Metabolic Risk Markers and Adipokines in the Development of Metabolic Syndrome". Diabetes & Metabolic Syndrome, 13(4), 2409–2417.

2. Hidalgo-Mora, J. J., Cortés-Sierra, L., García-Pérez, M. Á., Tarín, J. J., & Cano, A. (2020)". Diet to Reduce the Metabolic Syndrome Associated with Menopause. The Logic for Olive Oil." Nutrients, 12(10), 3184.

3. Santoro, N., Epperson, C. N., & Mathews, S. B. (2015). "Menopausal Symptoms and Their Management". Endocrinology and Metabolism Clinics of North America, 44(3), 497–515.

4. Sharma, S., & Mahajan, N. (2015). "Menopausal Symptoms and its Effect on Quality of Life in Urban Versus Rural Women: A Cross-Sectional Study". Journal of Mid-Life Health, 6(1), 16–20.

5. Johnson, A., Roberts, L., & Elkins, G. (2019). "Complementary and Alternative Medicine for Menopause". Journal of Evidence-Based İntegrative Medicine, 24, 2515690X19829380.
6. Ko, S. H., & Kim, H. S. (2020). "Menopause-Associated Lipid Metabolic Disorders and Foods Beneficial for Postmenopausal Women". Nutrients, 12(1), 202.
7. Bobescu, E., Bălan, A., Moga, M. A., Teodorescu, A., Mitrică, M., & Dima, L. (2020). "Are There Any Beneficial Effects of Spirulina Supplementation for Metabolic Syndrome Components in Postmenopausal Women?". Marine Drugs, 18(12), 651.
8. Han, H., Ni, P., Zhang, S., Ji, X., Zhu, M., Ma, W., Ge, H., & Chu, H. (2023). "The Association of Body Mass İndex and Weight Waist Adjustment İndex With Serum Ferritin in a National Study of US Adults". European Journal of Medical Research, 28(1), 374.
9. Shim, Y. S., Kang, M. J., Oh, Y. J., Baek, J. W., Yang, S., & Hwang, I. T. (2017). "Association of Serum Ferritin with Insulin Resistance, Abdominal Obesity, and Metabolic Syndrome in Korean Adolescent and Adults: The Korean National Health and Nutrition Examination Survey, 2008 to 2011". Medicine, 96(8), 6179.
10. Adamska, A., Łebkowska, A., Krentowska, A., Adamski, M., & Kowalska, I. (2020). "The Association Between Serum Ferritin Concentration and Visceral Adiposity Estimated by Whole-Body DXA Scan in Women With Polycystic Ovary Syndrome". Frontiers in Endocrinology, 10, 873.
11. Oldewage-Theron, W. H., Egal, A. A., & Grobler, C. J. (2015). "Is Obesity Associated With Iron Status in the Elderly? A Case Study From Sharpeville, South Africa". Public Health Nutrition, 18(3), 521–529.
12. Kumar, D., Rasheed, T., Zuberi, B. F., Sadaf, R., & Ali, F. S. (2023). "Correlation of HbA1c with Serum Iron & Transferrin Saturation in Non-Diabetic Patients with Iron Deficiency". Pakistan Journal of Medical Sciences, 39(4), 956–960.
13. Iwanaga, S., Sakano, N., Taketa, K., Takahashi, N., Wang, D. H., Takahashi, H., Kubo, M., Miyatake, N., & Ogino, K. (2014). "Comparison of Serum Ferritin and Oxidative Stress Biomarkers Between Japanese Workers with and Without Metabolic Syndrome". Obesity Research & Clinical Practice, 8(3), 201–298.
14. Srivastav, S. K., Mir, I. A., Bansal, N., Singh, P. K., Kumari, R., & Deshmukh, A. (2022). "Serum Ferritin in Metabolic Syndrome-Mechanisms and Clinical Applications". Pathophysiology: the Official Journal of the International Society for Pathophysiology, 29(2), 319–325.
15. Yu, L., Yan, J., Zhang, Q., Lin, H., Zhu, L., Liu, Q., & Zhao, C. (2020). "Association Between Serum Ferritin and Blood Lipids: Influence of Diabetes and hs-CRP Levels". Journal of Diabetes Research, 2020, 4138696.
16. Büyüköztürk, Ş., Kılıç Çakmak, E., Akgün, Ö. E., Karadeniz, Ş. ve Demirel, F. (2016). "Korelasyonel Araştırmalar. Bilimsel Araştırma Yöntemleri", 22, 184-189.
17. Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). "G*Power 3: a Flexible Statistical Power Analysis Program for the Social, Behavioral, and Biomedical Sciences". Behavior Research Methods, 39(2), 175–191.
18. Hilditch, J. R., Lewis, J., Peter, A., van Maris, B., Ross, A., Franssen, E., ... & Dunn, E. (1996). "A Menopause-Specific Quality of Life Questionnaire: Development and Psychometric Properties". Maturitas, 24(6), 161-175.
19. Hotun Şahin, N., Kharbouch, S. B., & H. Şahin, N. (2014). "Menopozal Dönemlerdeki Yaşam Kalitesinin Belirlenmesi". Florence Nightingale Journal of Nursing, 15(59), 82-90.
20. Tabachnick, B. G., & Fidell, L. S. (2013). "Using Multivariate Statistics". Boston: Pearson Education.
21. Chen, Y., Wang, A., Zhang, X., Xia, F., & Zhao, X. (2023). "Effect of Age at Menopause and Menopause İtself on High Sensitivity C-Reactive Protein, Pulse Wave Velocity and Carotid İntima-Media Thickness in a Chinese Population". Medicine, 102(42), 35629.
22. Silva, D. C., Costa, L. O., Vasconcelos, A. A., Cerqueira, J. C., Fantato, D., Torres, D. C., Santos, A. C., & Costa, H. F. (2014). "Waist Circumference and Menopausal Status Are Independent Predictors of Endothelial Low-Grade Inflammation". Endocrine Research, 39(1), 22–25.
23. Harraqui, K., Oudghiri, D. E., Mrabti, H. N., Hannoun, Z., Lee, L. H., Assaggaf, H., Qasem, A., Goh, K. W., Ming, L. C., Tan, C. S., Bouyahya, A., & Bour, A. (2023). "Association Between Physical Activity, Body Composition and Metabolic Disorders in Middle-Aged Women of Ksar El Kebir (Morocco)". International Journal of Environmental Research and Public Health, 20(3), 1739.
24. Wu, S., Shi, Y., Zhao, Q., & Men, K. (2023). "The Relationship Between Physical Activity and the Severity of Menopausal Symptoms: a Cross-Sectional Study". BMC Women's Health, 23(1), 212.
25. Tao, X., Jiang, M., Liu, Y., Hu, Q., Zhu, B., Hu, J., Guo, W., Wu, X., Xiong, Y., Shi, X., Zhang, X., Han, X., Li, W., Tong, R., & Long, E. (2023). "Predicting Three-Month Fasting Blood Glucose and Glycated Hemoglobin Changes in Patients with Type 2 Diabetes Mellitus Based on Multiple Machine Learning Algorithms". Scientific Reports, 13(1), 16437.
26. Ellidag, H. Y., Eren, E., Akdag, M., Giray, O., Kiraz, K., & Yilmaz, N. (2016). "The Relationship Between Serum Ferritin Levels and Serum Lipids and HDL Function with Respect to Age and Gender". Ukrainian Biochemical Journal, 88(6), 76–86.
27. Cybulska, A. M., Schneider-Matyka, D., Bosiacki, M., Chlubek, D., Panczyk, M., & Grochans, E. (2022). "The Levels of Bioelements in Postmenopausal Women with Metabolic Syndrome". Nutrients, 14(19), 4102.

GÜSBD 2024; 13(3): 1317 - 1326 **Gümüşhane Üniversitesi Sağlık Bilimleri Dergisi** **Araştırma Makalesi**
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Kadınların Vajinal Doğum Deneyimleri, Anne-Bebek Bağlanma Düzeyleri ile Çocuk Sahibi Olma İsteklilikleri Arasındaki İlişkinin Değerlendirilmesi

Evaluation of the Relationship Between Women's Vaginal Birth Experiences, Mother to Infant Bonding Levels, and Their Willingness to Have a Child

Fatma BAŞARAN[1], Berfin ÇETİK[2]

ÖZ

Bu çalışmada; kadınların vajinal doğum deneyimleri, anne-bebek bağlanma düzeyleri ile çocuk sahibi olma isteklilikleri arasındaki ilişkinin değerlendirilmesi amaçlanmıştır. Kesitsel tipte olan bu araştırma, Kasım 2023 - Şubat 2024 tarihleri arasında Türkiye'nin doğusunda bir ilde, bir üniversite hastanesinin lohusa servisinde yatan 334 kadın ile gerçekleştirilmiştir. Araştırma verileri; tanıtıcı bilgi formu, "Doğum Deneyimi Ölçeği (DDÖ)", "Anne-Bebek Bağlanma Ölçeği (ABBÖ)" ve "Çocuk Sahibi Olma İsteği Ölçeği (ÇSOİÖ)" ile toplanmıştır. Katılımcıların DDÖ puan ortalaması 54,90±8,95, ABBÖ puan ortalaması 2,64±3,38 ve ÇSOİÖ Ölçeği puan ortalaması ise 67,95±11,85 olarak belirlenmiştir. Kadınların doğum deneyimlerinin olumlu yönde artmasının anne-bebek bağlanma düzeyini olumlu yönde artırdığı, doğum deneyimi olumsuz olan kadınların ise çocuk sahibi olma isteklerinin azaldığı belirlendi. Sonuç olarak; kadınların vajinal doğum deneyimlerinin hem anne-bebek bağlanma düzeyi hem de tekrar çocuk sahibi olma istekliliği üzerinde etkili bir faktör olduğu saptanmıştır. Özellikle doğumda primer rol oynayan sağlık personellerinin kadının yaşamış olduğu doğum deneyimini göz önünde bulundurarak, annelerin postpartum dönemde bakım gereksinimlerini öncelikli olarak ele alması ve anne-bebek bağlanmasını iyileştirecek girişimlerde bulunması gerekmektedir.

Anahtar Kelimeler: Doğum Deneyimi, Anne-Bebek Bağlanması, Çocuk Sahibi Olma

ABSTRACT

This study it was aimed to evaluate the relationship between women's vaginal birth experiences, mother to infant bonding levels, and their willingness to have children. This cross-sectional study was conducted with 334 women hospitalized in the maternity ward of a university hospital in a province in eastern Turkey between November 2023 and February 2024. Research data; was collected with the introductory information form, "Birth Experience Scale (CEQ)," "Mother to Infant Bonding Scale (MIBS)," and "Desire to Have a Child Scale (DHCS)." The average CEQ score of the participants was 54.90±8.95, the MIBS mean score was 2.64±3.38, and the DHCS scale mean score was 67.95±11.85. As women's birth experiences increase positively, the level of mother-baby attachment increases positively. It has been determined that the willingness of women with a negative birth experience to have children decreases. In conclusion, It has been determined that women's vaginal birth experiences are an influential factor in both the mother-baby attachment level and their willingness to have children again. In particular, healthcare personnel who play a primary role in birth should prioritize the care needs of mothers in the postpartum period, taking into account the woman's birth experience, and taking initiatives to improve mother-baby bonding.

Keywords: Birth Experience, Mother to Infant Bonding, Having a Child

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[1] Dr. Öğr. Üyesi, Fatma BAŞARAN, Doğum ve Kadın Hastalıkları Hemşireliği, Ağrı İbrahim Çeçen Üniversitesi, Sağlık Bilimleri Fakültesi, Ebelik Bölümü, fbasaran@agri.edu.tr, ORCID: 0000-0002-6866-8678
[2] Berfin ÇETİK, Ağrı İbrahim Çeçen Üniversitesi, Sağlık Bilimleri Fakültesi, Hemşirelik Bölümü Lisans Öğrencisi, berfincetik635@gmail.com, ORCID: 0009-0009-8156-1806

İletişim / Corresponding Author: Fatma BAŞARAN
e-posta/e-mail: fbasaran@agri.edu.tr

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GİRİŞ

Doğum bir kadının fiziksel ve ruhsal sağlığını ve bebeği ile ilişkisini etkileyen önemli bir olaydır. Doğum fizyolojisi tüm kadınlar için benzer iken; kültürel inanış, gelenek, din ve diğer birçok faktörün etkisi ile ortaya çıkan doğuma yüklenen anlam her kadında benzersiz ve kişiye özgüdür.[1] Önceki doğum deneyimleri, gebelik ve doğum esnasında yaşanan komplikasyonlar, doğum ağrısı, iletişimsel problemler, indüksiyon, epizyotomi, lavman, vajinal tuşe, doğumhane ortamı, doğumda anneye sağlanan fiziksel ve psiko-sosyal destek gibi birçok faktör doğum deneyimini olumlu ya da olumsuz yönde etkilemektedir.[1,2] Doğumla ilgili yaşanan bu deneyimler, kısa ve uzun vadede kadınların yaşamları üzerinde önemli ölçüde fiziksel ve psikolojik etkilere neden olmaktadır. Etkileri uzun vadede devam eden doğum olayının pozitif olarak deneyimlenmesi kadın sağlığını iyileştirir, özgüvenini arttırır, anne-bebek ilişkisini olumlu yönde etkiler. Olumsuz bir doğum deneyimi ise zihinsel stres yaratarak anne-bebek ilişkisini zayıflatabilmekte, yenidoğanın fiziksel, zihinsel ve duygusal gelişimini olumsuz yönde etkileyerek doğum sonrası depresyona neden olabilmektedir.[3,4] Kadınların yaşadıkları bu olumsuz doğum deneyimleri sezaryen doğuma yönelme, kadınların tekrar gebe kalma ve çocuk sahibi olma kararlarını da etkilemektedir.[1,5] Olumsuz doğum deneyimi topluluklar arasında farklılık göstermekle birlikte, yapılmış olan bir sistematik derlemede yaygınlığının %6,8 ile %44 arasında değiştiği raporlandırılmıştır.[1]

Olumsuz doğum deneyiminin sonucunda, anne-bebek bağlanması da olumsuz yönde etkilenmekte, annelerin yenidoğan bebekleri ile duygusal temasını ve etkileşimini zorlaştırmaktadır.[6,] Mayopoulos ve ark.'larının (2021) yapmış oldukları bir çalışmada, olumsuz doğum deneyimine sahip olan kadınların anne-bebek bağlanma düzeylerinin daha düşük olduğu belirlenmiştir.[7] Yapılan başka bir çalışmada; olumsuz doğum deneyiminin doğum sonrası depresyon düzeyini etkilediğini ve depresyonun da postnatal bağlanma düzeyi üzerinde olumsuz etki yarattığı saptanmıştır.[8] Anne-bebek bağlanmasını olumsuz yönde etkilemesinin yanı sıra olumsuz doğum deneyimi aynı zamanda kadınların gebelik kararlarını ertelemelerine ya da tekrar çocuk sahibi olma isteklerinin engellenmesine neden olabilmektedir.[1,9]

Doğum sürecinde ortaya çıkan komplikasyonlar kadın ve bebeğin hayatta kalması ve sağlıklı bir hayat sürdürmeleri için kritik öneme sahiptir. Bu nedenle küresel strateji olan Sürdürülebilir Kalkınma Hedeflerinin (SKH) SKH-3 hedefi ile - Sağlıklı yaşamların güvence altına alınması ve her yaşta esenliğin desteklenmesi- anne ve yenidoğanın sağlığı başlıca hedefler arasında yer almaktadır. Bu belirtilen hedef kapsamında, kadınların ve bebeklerin sadece hayatta kalması veya doğum komplikasyonlarından kurtulması ile sınırlı kalmadan, onların sağlık ve refahı açısından sağlıklı bir doğum süreci deneyimlemesine odaklanılmıştır.[10] SKH'nın bu hedefi doğrultusunda komplikasyonsuz doğum eylemi ve doğumun sağlıklı koşullarda yürütülmesi amacıyla Dünya Sağlık Örgütü 2018 yılında "Olumlu Bir Doğum Deneyimi İçin İntrapartum Bakım" başlıklı kapsamlı bir rehber geliştirmiş ve yayımlamıştır. Bu rehberde yer alan önerilerin, mortalite ve morbidite riskinin önlenmesinin ötesine geçtiği ve kadın ile bebeğinin sağlığı ve refahını optimize etmeyi içeren insan merkezli bir felsefeyi kapsadığı belirtilmiştir.[11] Literatür incelendiğinde; kadınların doğum deneyimleri, anne-bebek bağlanma düzeyleri ve çocuk sahibi olma istekliliklerini birlikte ele alan herhangi bir çalışmaya rastlanılmamıştır. Özellikle kadının yaşadığı olumlu ya da olumsuz vajinal doğum deneyimi ile anne-bebek bağlanması ve bu deneyime bağlı olarak kadının daha sonra tekrar anne olması arasında nasıl bir ilişki olduğu literatürde bir boşluk olarak belirlenmiştir. Bu bağlamda bu araştırmanın amacı; kadınların olumlu ya da olumsuz vajinal doğum deneyimleri, anne-bebek bağlanma düzeyleri ile tekrar çocuk sahibi

olma isteklilikleri arasındaki ilişkinin değerlendirilmesi amaçlanmıştır.

Araştırma soruları

1. Kadınların vajinal doğum deneyimleri nasıldır?
2. Kadınların anne-bebek bağlanma düzeyleri nasıldır?
3. Kadınların tekrar çocuk sahibi olma isteklilikleri nasıldır?
4. Kadınların vajinal doğum deneyimleri, anne-bebek bağlanma düzeyleri ile tekrar çocuk sahibi olma isteklilikleri arasında nasıl bir ilişki vardır?
5. Kadınların vajinal doğum deneyimleri, anne-bebek bağlanma düzeyleri ile tekrar çocuk sahibi olma isteklilikleri üzerinde etkili olan değişkenler nelerdir?

MATERYAL VE METOT

Araştırmanın Tipi

Kesitsel tipte bir araştırmadır.

Araştırmanın Evren ve Örneklemi

Araştırmanın evrenini, araştırmanın yapıldığı hastaneye araştırmadan önceki bir yıl içinde vajinal doğum için başvuran 2519 kadın oluşturmuştur. Araştırmanın örneklemi, %95 güven aralığı, %5 hata payı ile evreni bilinen örneklem hesabı formülü kullanılarak 334 kadın olarak belirlenmiştir. Kasım 2023 - Şubat 2024 zaman aralığında Türkiye'nin Doğu bölgesindeki bir şehirde bulunan üniversite hastanesinin lohusa servisinde ilk 24 saat içinde takip edilip araştırmanın dahil edilme şartlarına uyan kadınlar araştırma örneklemini oluşturmuştur.

Araştırmaya dahil edilme ve araştırmadan dışlanma kriterleri

18 yaş ve üzerinde olup vajinal doğum yapan, primipar ya da multipar olan ve postpartum dönemde (doğum sonrası ilk 42 gün) olup sağlıklı yenidoğana sahip olan kadınlar araştırmaya dahil edilirken; bebeğinde ve/veya kendisinde emzirmeye engel bir durumu, herhangi psikiyatrik rahatsızlığı ve tekrar çocuk sahibi olmasına engel bir durumu olan kadınlar (tüp ligasyonu vb.) araştırmadan dışlanmıştır.

Veri Toplama Araçları

Araştırma verileri "Tanıtıcı Bilgi Formu", "Doğum Deneyimi Ölçeği", "Anne-Bebek Bağlanma Ölçeği "ve "Çocuk Sahibi Olma İsteği Ölçeği" ile elde edilmiştir.

Tanıtıcı Bilgi Formu

Araştırmacılar tarafından literatür doğrultusunda[1,3,5,6,12] hazırlanan, kadınların sosyo-demografik ve obstetrik özellikleri ile tekrar çocuk sahibi olma isteklerini sorgulayan toplam 13 sorudan oluşmaktadır.

Doğum Deneyimi Ölçeği (DDÖ)

Dencker ve diğerleri tarafından 2010 yılında farklı boyutları ile kadınların doğum deneyimlerinin ölçülmesi için geliştirilen ölçeğin Türkçe uyarlaması 2019 yılında Mamuk ve arkadaşları tarafından yapılmıştır. Ölçek dört alt boyut ve toplam 22 maddeden oluşmaktadır. Doğum sürecinin alt boyutlarında mevcut olan 8 madde (1, 2, 4, 5, 6, 19, 20, 21); doğum süreci, doğum ağrısı ve kadınların bireysel kontrol hislerini değerlendirmektedir. Profesyonel yardım / destek alt boyutunda mevcut olan 5 madde (13, 14, 15, 16, 17) ise ebelik bakımı ve bilgilendirmeyi değerlendirmektedir. Algılanan güvenlik /anılar alt boyutundaki 6 madde (3, 7, 8, 9, 18, 22); doğum ile ilgili hatıralar / anılar ve güvenlik hissi sorgulanmaktadır. Kararlara katılım ile ilgili alt boyutunda mevcut olan 3 madde (10, 11, 12) ise; doğum ağrısının giderilmesi, doğum pozisyonu ve hareket etme ile ilgili kararlara katılım durumunu sorgulamaktadır. Ölçekte yer alan ilk 19 madde dörtlü likert tipi kullanılrak değerlendirilirken son üç maddesi ise VAS ile değerlendirilmektedir. Ölçek maddelerinin ilk 19'u 1'den 4'e kadar puanlanmaktadır (Tamamen katılıyorum = 1, Çoğunlukla katılıyorum = 2, Kısmen katılıyorum = 3, Hiç katılmıyorum = 4). VAS

ölçeği için de skorlar kategorik olarak 0-40 =1, 41-60 = 2, 61-80 = 3, 81-100 = 4 olacak şekilde sınıflandırılmıştır. Ölçekte yer alan 3, 5, 8, 9 ve 20 numaralı sorularda ters bir şekilde puanlanmaktadır. Ölçekten alınan puan arttıkça anne adayının iyi bir doğum deneyimi yaşadığı ifade edilmektedir. Cronbach Alpha güvenirlik katsayısı toplam ölçek için 0,76 olarak saptanmıştır.[13] Bu çalışma için Cronbach Alpha güvenilirlik katsayısı 0,76'dir.

Anne-Bebek Bağlanma Ölçeği (ABBÖ) (Mother-to-Infant Bonding Scale)

Taylor ve arkadaşları 2005 yılında doğum sonrası annenin bebeğine karşı hissettiği duyguları açık ve net olarak ifadesine olanak sağlamak amacıyla geliştirilmiştir.[14] Karakulak ve Alparslan tarafından 2016 yılında bu ölçeğin Türkçe uyarlaması yapılmıştır. ABBÖ; kızgın, öfke, nötr/hiçbirşey hissetmeme, sevgi dolu, hoşlanmama, sevinçli, koruyucu, hayal kırıklığı, gibi ruh halini tanımlayan 8 maddeden oluşan, 4'lü Likert (Çok fazla, Çok, Biraz, Hiç) tipinde bir ölçektir. Yanıtları 0-3 arasında puanlanan ölçek ile alınabilecek minimum puan 0 iken maksimum puan 24'tür. Ölçekteki 2., 3., 5., 7. ve 8. sorular ters puanlanmaktadır. Ölçekten alınan puan arttığı takdirde anne bebek bağlanma durumu azalmaktadır; puan azaldığında ise bağlanma durumu artmaktadır. Ölçeğin Cronbach's Alpha değeri 0,69 olarak bulunmuştur.[15] Bu çalışma için Cronbach Alpha güvenilirlik katsayısı 0,65'dir.

Çocuk Sahibi Olma İsteği Ölçeği (ÇSOİÖ)

Orjinal adı 'Fertility Desire Scale' olan ölçek Naghibi ve arkadaşları tarafından 2019 yılında evli bireylerin çocuk sahibi olma isteklerini ölçmek amacıyla geliştirilmiştir. Ölçeğin Türkçe uyarlaması 2021 yılında Kamiloğlu ve Vural tarafından yapılmıştır. Ölçek toplam 19 madde ve 4 alt boyuttan (pozitif çocuk doğurma motivasyonları, tercihleri, çocuk doğurma endişeleri ve sosyal inançlar) oluşmaktadır. Beşli Likert tipine (1-kesinlikle katılmıyorum, 2-katılmıyorum, 3-kararsızım 4-katılıyorum ve 5-tamamen katılıyorum) sahip olan ölçekten elde edilebilecek en düşük puan 19, en yüksek puan 95'tir. Ölçekten alınan puan arttıkça, çocuk sahibi olma istekliliği artmaktadır. Ölçeğin Cronbach's Alpha değeri 0,82 olarak hesaplanmıştır.[16] Bu çalışma için Cronbach Alpha güvenilirlik katsayısı 0,82'dir.

Verilerin Toplanması

Araştırmanın planlanması aşamasında araştırmacılar tarafından ölçek sahiplerinden e-posta yoluyla yazılı olarak ölçek izinleri alınmıştır. Araştırmanın verileri etik kurul ve kurum izinleri alındıktan sonra Kasım 2023 - Şubat 2024 tarihleri arasında hastanenin lohusa servisinde postpartum dönemde takip edilen kadınların onamları alındıktan sonra yüz yüze görüşme yöntemi elde edilmiştir.

Verilerin Analizi

Araştırmadan elde edilen veriler, bilgisayar ortamına aktarılarak IBM SPSS (versiyon 25.0) istatistik paket programı aracılığı ile değerlendirilmiştir. Verilerin analizinde normallik sınamaları yapılmış Skewness ve Kurtosis değerlerinin -2 ile +2 arasında olduğu, verilerin normal dağılım gösterdiği görülmüştür. Verilerin değerlendirilmesinde yüzde, frekans, ortalama ve standart sapma, Pearson korelasyon analizi, Independent Sample t testi, One-Way ANOVA testi ve çoklu Lineer regresyon analizi kullanılmıştır. İstatistiksel anlamlılık düzeyi $p < .05$ olarak kabul edilmiştir.

Araştırmanın Etik Yönü

Çalışmanın yürütülebilmesi için Ağrı İbrahim Çeçen Üniversitesi Bilimsel Araştırmalar Etik Kurulu'ndan 22.06.2023 tarih ve 155 sayılı etik kurul izni ile Ağrı İl Sağlık Müdürlüğü'nden 02.11.2023 tarih ve 131 sayılı kurum izni alınmıştır. Katılımcılardan sözlü ve yazılı onam alınmıştır.

Araştırmanın Kısıtlılıkları

Araştırmada toplanan veriler, katılımcıların kişisel beyanına dayanmaktadır. Araştırmanın kısıtlılığı, tek merkezli bir hastanede uygulanmasıdır.

Teşekkür/Destekleyen Kuruluş

Bu araştırmanın yürütülmesi sürecinde desteklerinden dolayı TÜBİTAK (Türkiye

Bilimsel ve Teknolojik Araştırma Kurumu)'a teşekkür ederiz.

BULGULAR VE TARTIŞMA

Katılımcıların yaş ortalaması 27,91±5,87 ve büyük çoğunluğu (%84,1) 35 yaş altındadır. Kadınların %10,2'si okuma yazma bilmezken, %78,4'ü ev hanımıdır. Kadınlardan 125'i (%37,4) 4 ve üzerinde gebelik öyküsüne sahipken, yaşayan çocuk sayısı 2,44±1,13 olarak belirlenmiştir. Kadınlardan 109'unun (%32,6) son gebeliği planlı olmayan bir gebelik iken, 204 kadın tekrar çocuk sahibi olmak istemediğini ifade etmiştir (Tablo 1).

Tablo 1. Katılımcıların Sosyo-Demografik Özelliklerinin Dağılımı (n=334)

Değişkenler	n	%
Yaş		
<35	281	84.1
≥35	53	15.9
Yaş ortalaması: 27,91±5,87		
Eğitim durumu		
Okur-yazar değil	34	10.2
Okur-yazar	30	9.0
İlköğretim	153	45.8
Lise	64	19.2
Ön lisans ve üstü	53	15.9
Eşinin eğitim durumu		
Okur-yazar değil	16	4.8
Okur-yazar	26	7.8
İlköğretim	117	35.0
Lise	116	34.7
Ön lisans ve üstü	59	17.7
Mesleği		
Çalışmıyor	262	78.4
Çalışıyor	72	21.6
Gelir durumu algısı		
Gelir giderden az	131	39.2
Gelir gidere denk	175	52.4
Gelir giderden fazla	28	8.4
Toplam gebelik sayısı		
1	68	20.4
2	79	23.7
3	62	18.6
≥4	125	37.4
Yaşayan çocuk sayısı		
1	87	26.0
2	97	29.0
3	65	19.5
≥4	85	25.4
Yaşayan çocuk sayısı ortalaması: 2,44±1,13		
En son doğum eyleminin gerçekleştiği gebelik haftası	17	5.1
≤37.hafta	299	89.5
38-40.hafta	18	5.4
>40.hafta		
En son gebeliğin planlı olma durumu		
Hayır	109	32.6
Evet	225	67.4
Bebeği doğumdan sonra emzirme zamanı	67	20.1
<15 dakika	126	37.7
15-30 dakika	62	18.6
30-45 dakika	79	23.7
>45 dakika		
Doğuma hazırlık eğitimi alma durumu	245	73.4
Hayır	89	26.6
Evet		

Katılımcıların DDÖ puan ortalaması 54,90±8,95, ABBÖ puan ortalaması 2,64±3,38 ve ÇSOİÖ puan ortalaması 67,95±11,85 olarak belirlenmiştir. Katılımcılar DDÖ'den min.-max.: 31-83; ABBÖ'den min.-max.:0-17; ÇSOİÖ'nden min.-max.:23-95 puan almışlardır (Tablo 2). Aynı ölçeklerin kullanıldığı ve daha önce yapılan çalışmalarda; DDÖ puan ortalamasının 51.58±10.84[17]; olduğu ve çalışmamızla benzerlik gösterdiği saptanmıştır. AABÖ puan ortalamasının daha önceki çalışmalarda 2.49±3.65 ila 22,25±2.01 arasında değiştiği[18,19] çalışmamızla benzer olarak anne-bebek bağlanma düzeyinin yüksek olarak tespit edildiği çalışmalarda mevcuttur. Durcan ve ark.'nın yaptığı bir çalışmada ÇSOİÖ puan ortalaması 56.1±10.6[20] olduğu ve bizim çalışmamızda puan ortalamasının daha yüksek olduğu belirlenmiştir. Doğum deneyimi ve çocuk sahibi olma istekliliği ölçeklerinin ülkemize uyarlanan yeni ölçekler olması ve kullanıldığı çalışma sayısının yetersiz olması nedeniyle daha fazla çalışmaya ihtiyaç olduğu düşünülmektedir. Ayrıca araştırmayı yürüttüğümüz ilde doğurganlık oranının çok yüksek olmasının da çocuk sahibi olma istekliliğini etkileyen bir faktör olduğu düşünülmektedir.

Tablo 2. Doğum Deneyimi Ölçeği, Anne-Bebek Bağlanma Ölçeği ve Çocuk Sahibi Olma İsteği Ölçeğine İlişkin Dağılımlar (n=334)

Ölçekler	Madde sayısı	Ort±SS	Median	Min.-Max	Yüzdelik dilimler		
					%25	%50	%75
Doğum Deneyimi Ölçeği	22	54.90±8.95	55.50	31.00- 83.00	50.00	55.50	61.00
Anne-Bebek Bağlanma Ölçeği	8	2.64±3.38	1.00	0.00-17.00	0.00	1.00	4.00
Çocuk Sahibi Olma İsteği Ölçeği	19	67.95±11.85	67.00	23.00-95.00	61.00	67.00	74.00

Kadınların doğum deneyimleri olumlu yönde arttıkça anne bebek bağlanma düzeyi de olumlu yönde artmaktadır. Doğum deneyimi olumsuz olan kadınların çocuk sahibi olma isteklilikleri azalmaktadır (Tablo 3). Yapılan çalışmalar; travmatik doğum deneyimi ile doğum sonrası bağlanma arasında hem doğrudan hem de dolaylı ilişki olduğunu, travmatik doğum deneyiminin doğum sonrası depresyon düzeyini etkilediğini ve bunun da doğum sonrası bağlanma bağının kalitesini olumsuz yönde etkilediğini ortaya koymuştur.[7,8] Başka bir çalışmada ise annelerin travmatik doğum algısı arttıkça maternal bağlanma düzeyinin azaldığı belirtilmiştir.[12] Daha önce yapılmış olan araştırmalar incelendiğinde; çalışmamızla benzer olarak doğum deneyiminin doğum sonrası anne bebek bağlanma düzeyinde çeşitli boyutlarda etkili bir faktör olduğu sonucuna varılmıştır. Doğum deneyimi olumlu olan annelerin doğumdan sonra en kısa sürede bebekleri ile ten tene temas kurabildikleri ve psikolojik olarak iyi olan annelerin maternal bağlanmalarının da daha iyi olduğu düşünülmektedir.

Doğum deneyimi olumsuz olan annelerin doğum sonrası anne-bebek bağlanma düzeylerinin yakından takip edilmesi ve gerekli desteğin sağlanması gerektiği düşünülmektedir. Doğum deneyimi olumsuz olan kadınların çocuk sahibi olma istekliliklerinin azaldığı saptanmıştır. İran'da 800 kadınla yapılan kesitsel bir çalışmada; doğum deneyimi ile kadınların sonraki gebeliklere ve vajinal doğuma karşı tutumu arasında istatistiksel olarak önemli derecede anlamlı bir ilişki olduğu, olumsuz doğum deneyiminin kadınların tekrar hamile kalma ve vajinal doğum yapma isteğini azalttığı belirlenmiştir.[5] Olumsuz vajinal doğum deneyiminin kadınların tekrar gebe kalıp çocuk sahibi olması üzerinde önemli bir faktör olduğu ve bu konuda daha fazla araştırmaya ihtiyaç olduğu düşünülmektedir.

Tablo 3. Kadınların Doğum Deneyimleri, Anne Bebek Bağlanma Düzeyleri ile Çocuk Sahibi Olma İsteklilikleri Arasındaki İlişki

Ölçekler	1	2	3
1. Doğum deneyimi	1		
2. Anne bebek bağlanma düzeyi	.127*	1	
3. Çocuk sahibi olma istekliliği	-.196**	.104	1

** $p < 0.001$

Kadınların vajinal doğum deneyimleri ile yaş, eğitim durumu, eşinin eğitim durumu, meslek, gelir durumu, doğumun meydana geldiği gebelik haftası, bebeği doğumdan sonra emzirme zamanı ve doğuma hazırlık eğitimi alma durumu arasında istatistiksel olarak anlamlı ilişki saptanmıştır. Literatür incelendiğinde; çalışmamızla benzer olarak kadınların doğum deneyimlerinin birçok faktörden etkilendiği belirlenmiştir.[1-3] Smarandache ve ark.'nın 6.421 kadınla yaptıkları bir çalışmada ileri yaş ve plansız/istenmeyen gebeliğin olumsuz doğum deneyimi üzerinde önemli faktörler olduğu belirlenmiştir.[21] Yapılan başka bir çalışmada;

annelerin eğitim düzeyinin artmasının travmatik doğum algısı üzerine azaltıcı etkisi, gelir durumu algısının düşmesinin ise travmatik doğum algısı üzerine artırıcı etkisinin olduğu saptanmıştır.[12] Kadınların sosyo-demografik özelliklerinin yanısıra doğumla ilişkili diğer faktörlerin de detaylı olarak ele alınmasının doğum deneyiminin olumlu olması açısından katkı sağlayacağı düşünülmektedir. Kadınların anne-bebek bağlanma düzeyleri ile kadının ve eşinin eğitim durumu, meslek, yaşayan çocuk sayısı arasında anlamlı ilişki bulunmuştur. Literatürde daha önce yapılmış çalışmalar incelediğinde; annenin eğitim düzeyi, ekonomik gelir algısı ve doğum sayısının maternal bağlanma üzerine etkisinin olmadığını gösteren çalışmaların yanısıra[12,22]; etkili olduğunu gösteren çalışma sonuçları da mevcuttur.[18] Farklı sonuçların olmasının çalışılan örneklem grubu ile ilgili olabileceği ve anne-bebek bağlanmasını etkileyen faktörlerin daha geniş açıdan ele alınmasının gerektiği düşünülmektedir. Çalışmamızda kadınların çocuk sahibi olma isteklilikleri ile yaş, kadının ve eşinin eğitim durumu, meslek, toplam gebelik sayısı, yaşayan çocuk sayısı arasında istatistiksel açıdan anlamlılık saptanmıştır.

Etiyopya'da yapılan bir çalışmada; kadının yaşının, eğitim düzeyinin ve yaşayan çocuk sayısının daha fazla çocuk sahibi olma arzusunun önemli belirleyicileri olduğu belirlenmiştir.[23] İran'da yapılan bir çalışmada da; kadınların yaşının, kadın ve eşinin okuryazarlık durumunun, meslek durumunun çocuk doğurma isteğinin anlamlı yordayıcıları olduğu saptanmıştır.[24] Çalışmamızda kadınların son gebeliğinin planlı olup olmama durumu ile tekrar çocuk sahibi olma istekliliği arasında anlamlı bir ilişki saptanmamıştır. Literatürde benzer çalışmaya rastlanmamış olup, bu konuda farklı araştırmalara ihtiyaç olduğu düşünülmektedir. Genel olarak çalışma sonucumuzun literatürle benzerlik gösterdiği ve kadınların çocuk sahibi olma isteklilikleri üzerinde bazı değişkenlerin büyük önem taşıdığı gözlemlenmektedir (Tablo 4).

Tablo 4. Kadınların Doğum Deneyimi, Anne-Bebek Bağlanma ve Çocuk Sahibi Olma İsteklilikleri ile Sosyo-Demografik ve Sağlık ile İlişkili Bazı Değişkenlere Göre Dağılımı

Değişkenler		Doğum deneyimi		Anne-bebek bağlanma		Çocuk sahibi olma isteği	
		Ort±SS	t/F; p	Ort±SS	t/F; p	Ort±SS	t/F; p
Yaş grup							
<35		55.63±8.80	3.470;**0.001**	2.52±3.24	-1.342;0.184	66.96±11.07	-2.995;**0.004**
≥35		51.05±8.84		3.30±3.98		73.18±14.34	
Eğitim grup							
Okur-yazar değil	(1)	56.26±8.75		3.55±4.07		72.14±13.51	
Okur-yazar	(2)	59.03±9.84		5.13±4.59		66.36±14.41	
İlköğretim	(3)	55.87±8.32	7.857;**0.000**	2.83±3.07	9.830;**0.000**	69.45±10.49	4.172;**0.003**
Lise	(4)	54.48±8.68		2.00±2.99		66.73±10.99	
Ön lisans ve üstü	(5)	49.41±8.46		0.90±2.14		63.30±12.47	
Grup içi karşılaştırma		(1-5).(2-5).(3-5).(4-5)		(1-5).(2-3).(2-4).(2-5).(3-5)		(1-5).(3-5)	
Eşinin eğitim grup							
Okur-yazar değil	(1)	56.81±7.66		3.68±4.65		74.68±13.89	
Okur-yazar	(2)	60.03±9.57		5.50±5.02		65.53±14.56	
İlköğretim	(3)	55.87±8.87	8.002;**0.000**	3.23±3.44	11.018;**0.000**	69.56±10.86	4.526;**0.001**
Lise	(4)	55.09±8.38		2.06±2.59		68.27±10.12	
Ön lisans ve üstü	(5)	49.84±8.22		1.10±2.06		63.35±13.54	
Grup içi karşılaştırma		(2-5).(3-5).(4-5)		(2-3).(2-4).(2-5).(3-5)		(1-5).(3-5)	
Meslek							
Çalışmıyor		55.72±8.27	3.230;**0.006**	3.00±3.52	3.712;**0.000**	68.69±11.30	2.197;**0.029**
Çalışıyor		51.93±10.61		1.36±2.39		65.25±13.41	
Gelir durumu							
Gelir giderden az	(1)	56.38±8.80		2.79±3.32		68.96±10.53	
Gelir gidere denk	(2)	54.48±8.83	5.280;**0.006**	2.64±3.56	0.693;0.501	67.04±12.48	1.076;0.342
Gelir giderden fazla	(3)	50.64±9.01		1.96±2.23		68.89±13.52	
Grup içi karşılaştırma		(1-3)		-		-	
Toplam gebelik sayısı							
1	(1)	54.98±9.20		2.30±3.33		63.80±11.66	
2	(2)	53.24±9.77	1.435;0.233	2.51±3.11	1.572;0.196	67.88±13.71	3.926;**0.009**
3	(3)	56.22±9.04		2.17±2.77		69.27±10.30	
4 ve üstü	(4)	55.26±8.14		3.14±3.79		69.59±10.96	
Grup içi karşılaştırma		-		-		(1-4)	

Tablo 4. (Devamı)							
Yaşayan çocuk sayısı							
1	(1)	54.80±8.64		2.36±3.23		64.72±12.55	
2	(2)	54.38±9.85	0.494;0.687	2.19±2.78	5.151;**0.002**	67.52±11.61	4.704;**0.003**
3	(3)	54.53±8.46		2.10±2.95		68.47±11.98	
4 ve üstü	(4)	55.89±8.60		3.85±4.13		71.34±10.44	
Grup içi karşılaştırma		-		(1-4).(2-4).(3-4)		(1-4)	
En son doğum eyleminin gerçekleştiği gebelik haftası							
≤37.hafta		48.47±7.31		3.35±3.63		71.47±16.03	
38-40.hafta		55.59±8.83	8.814;**0.000**	2.70±3.40	2.425;0.090	67.70±11.67	0.844;0.431
>40.hafta		49.61±8.38		1.05±2.18		68.66±10.24	
Grup içi karşılaştırma		(1-2).(2-3)		-		-	
En son gebeliğin planlı olma durumu							
Hayır		56.10±8.52	3.243;0.090	3.24±3.81	3.009;0.24	69.15±10.23	4.965;0.167
Evet		54.32±9.11		2.35±3.11		67.36±12.53	
Bebeği doğumdan sonra emzirme zamanı							
<15 dakika		53.02±8.22		2.10±2.65		68.97±10.30	
15-30 dakika		53.79±9.61	3.815;**0.010**	2.35±3.24		69.32±11.55	
30-45 dakika		56.80±9.24		2.77±3.44	2.501;0.059	66.35±12.74	1.723;0.162
>45 dakika		56.78±7.65		3.46±3.95		66.15±12.62	
Doğuma hazırlık eğitimi alma durumu							
Hayır		55.55±8.73	2.461;**0.027**	2.45±3.18	7.276;0.113	67.71±9.71	59.247;0.636
Evet		53.11±9.33		3.17±3.84		68.59±16.41	

* Scheffe testi

Çocuk sahibi olma istekliliğindeki her bir birimlik artış kadınların doğum deneyiminde 0,30 puanlık azalma oluşturmakta olup, yaşayan çocuk sayısında 1,31 birimlik artış gerçekleşmektedir. Kadınların çocuk sahibi olma istekliliğindeki her bir birimlik artış durumunda eşlerinin okuryazar olmama durumu 8,44 birim, kendilerinin ilköğretim mezunu olma durumu 3,40 birim artmaktadır (her biri için $p < 0,05$; Tablo 5). Yapılan bir çalışmada; olumsuz doğum deneyiminin, kadınların sonraki gebeliklere karşı isteksizliği ve vajinal doğum için bağımsız bir öngörücü faktör olduğu bulunmuştur.[5] Yapılan başka bir çalışmada; kadının ve eşinin okuryazarlık durumunun kadınların gebelik ve çocuk doğurma niyetiyle ilişkili önemli faktörler olduğu tespit edilmiştir.[23]

Tablo 5. Çocuk Sahibi Olma İstekliliğini Öngören Değişkenlerin Çoklu Lineer Regresyon Analizi Bulguları

Değişkenler	**B**	**SE**	**Beta**	**t**	**P**	**Correlations**		**Tolerance**	**VIF**
						Zero-ord	**Partial**		
Model									
(Constant)	79.047	3.919		20.171	< **.001**				
Doğum deneyimi toplam	-.302	.069	-.228	-4.351	< **.001**	-.1960	-.233	.984	1.016
Yaşayan çocuk sayısı	1.315	.406	.171	3.243	**.001**	.187	.176	.972	1.029
Eşi okuryazar olmayan	8.449	2.943	.152	2.871	**.004**	.128	.156	.956	1.046
İlköğretim mezunu olan	3.407	1.274	.143	2.673	**.008**	.116	.146	.937	1.067

$R = 0.336$; $R^2 = 0.113$; $F(4.329) = 10.464$; $p < 0.001$; Durbin Watson = 1.983

SONUÇ VE ÖNERİLER

Çalışmamızda katılımcıların DDÖ puan ortalaması 54,90±8,95, ABBÖ puan ortalaması 2,64±3,38 ve ÇSOİÖ puan ortalaması 67,95±11,85 olarak belirlenmiştir. Genel olarak kadınların doğum deneyimlerinin orta düzeyde, anne-bebek bağlanmalarının iyi düzeyde ve çocuk sahibi olma isteklilikerinin ise orta düzeyde olduğu ifade edilebilir. Kadınların doğum deneyimlerinin olumlu yönde artmasının, anne bebek bağlanma düzeyini de olumlu yönde arttırdığı belirlenmiştir. Doğum deneyimi olumsuz olan kadınların çocuk sahibi olma isteklilikerinin azaldığı saptanmıştır. Kadınların doğum deneyimlerinin, anne-bebek bağlanma düzeylerinin ve çocuk sahibi olma isteklilikleri ile birçok sosyo-demografik değişken arasında istatistiksel açıdan anlamlılık saptanmıştır. Çoklu regresyon

analizi sonucunda çocuk sahibi olma istekliliğinin kadınların doğum deneyiminden, yaşayan çocuk sayısından, eşlerinin okuryazar olmama durumunda ve kendilerinin ilköğretim mezunu olma durumundan etkilendiği belirlenmiştir. Kadınların vajinal doğumları esnasında rol oynayan sağlık profesyonellerinin kadınların doğum deneyimlerini bir bütün olarak değerlendirmeleri, doğum deneyimini göz önünde bulundurarak anne-bebek bağlanma düzeyinin takip edilmesinin anne ve yenidoğan sağlığı açısından önemli olduğu düşünülmektedir. Kadının sosyo-demografik ve doğurganlıkla ilgili özellikleri göz önüne alınarak tekrar çocuk sahibi olma istekliliğinin sağlık personelleri tarafından detaylı olarak ele alınması ve postpartum dönemde bu konuda kadınlara danışmanlık verilmesi gerektiği düşünülmektedir. Ayrıca primipar veya multipar olarak farklı örneklem grupları ve yöntemleri ile kadınların çocuk sahibi olma isteklilliklerini etkileyen doğum öncesi ve sonrası faktörleri ele alacak araştırmalara ihtiyaç duyulmaktadır.

KAYNAKLAR

1. Hosseini, M.T, Kolahdozan, S, Keramat, A, Shahhossein, Z, Moosazadeh, M. and Motaghi, Z. (2020). "Prevalence and Factors Affecting the Negative Childbirth Experiences: A Systematic Review". The Journal of Maternal-Fetal & Neonatal Medicine, 33(22), 3849-3856. https://doi.org/10.1080/14767058.2019.1583740
2. Namujju, J, Muhindo, R, Mselle, L.T, Waiswa, P, Nankumbi, J. and Muwanguzi, P. (2018). "Childbirth Experiences and Their Derived Meaning: A Qualitative Study Among Postnatal Mothers in Mbale Regional Referral Hospital, Uganda". Reproductive Health, 15, 1-11. https://doi.org/10.1186/s12978-018-0628-y
3. Fenaroli, V, Molgora, S, Dodaro, S, Svelato, A, Gesi, L, Molidoro, G, Saita, E. and Ragusa, A. (2019). "The Childbirth Experience: Obstetric and Psychological Predictors in Italian Primiparous Women". BMC pregnancy and childbirth, 19(1), 1-7. https://doi.org/10.1186/s12884-019-2561-7
4. Hassanzadeh, R, Abbas-Alizadeh, F, Meedya, S, Mohammad-Alizadeh-Charandabi, S. and Mirghafourvand, M. (2021). "Perceptions of Primiparous Women About the Effect of Childbirth Preparation Classes on Their Childbirth Experience: A Qualitative Study". Midwifery, 103, 103154. https://doi.org/10.1016/j.midw.2021.103154
5. Ghanbari-Homayi, S, Fardiazar, Z, Mohammad-Alizadeh-Charandabi, S, Asghari Jafarabadi, M, Mohamadi, E, Meedya, S. and Mirghafourvand, M. (2020). "Developing of a New Guideline for Improving Birth Experiences Among Iranian Women: A Mixed Method Study Protocol". Reproductive Health, 17, 1-10. https://doi.org/10.1186/s12978-020-0868-5
6. Kjerulff, K.H, Attanasio, L.B, Sznajder, K.K. and Brubaker, L. H. (2021). "A Prospective Cohort Study of Post-Traumatic Stress Disorder and Maternal-Infant Bonding After First Childbirth". Journal of Psychosomatic Research, 144, 110424. https://doi.org/10.1016/j.jpsychores.2021.110424
7. Mayopoulos, G.A, Ein-Dor, T, Dishy, G.A, Nandru, R, Chan, S.J, Hanley, L.E, Kaimal, A.J. and Dekel, S. (2021). "COVID-19 is Associated with Traumatic Childbirth and Subsequent Mother-Infant Bonding Problems". Journal of Affective Disorders, 282, 122-125. https://doi.org/10.1016%2Fj.jad.2020.12.101
8. Ponti, L, Smorti, M, Ghinassi, S, Mannella, P. and Simoncini, T. (2020). "Can a Traumatic Childbirth Experience Affect Maternal Psychopathology and Postnatal Attachment Bond?" Current Psychology, 41, 1237–1242. https://doi.org/10.1007/s12144-020-00650-2
9. Boorman, R.J, Devilly, G.J, Gamble,J, Creedy, D.K. and Fenwick, J. (2014). "Childbirth and Criteria for Traumatic Events". Midwifery, 30(2), 255-261. https://doi.org/10.1016/j.midw.2013.03.001
10. UN. (2017). The Sustainable Development Goals Report 2017. The United Nations, New York, 2017:20-24. https://unstats.un.org/sdgs/files/report/2017/thesustainabledevelopmentgoalsreport2017.pdf. Erişim tarihi: 18.03.2024.
11. WHO. (2018). "WHO Recommendations on Intrapartum Care for a Positive Childbirth Experience". World Health Organization. https://www.who.int/publications/i/item/9789241550215 Erişim tarihi: 18.03.2024.
12. Aydın, R, Aktaş, S. and Kaloğlu-Binici, D. (2022). "Vajinal Doğum Yapan Annelerin Doğuma İlişkin Travma Algısı ile Maternal Bağlanma Düzeyi Arasındaki İlişkinin İncelenmesi: Bir Kesitsel Çalışma". Gümüşhane Üniversitesi Sağlık Bilimleri Dergisi, 11(1), 158-169. https://doi.org/10.37989/gumussagbil.1051454
13. Mamuk, R, Şahin, N. and Dişsiz, M. (2019). "The Turkish Version of the Childbirth Experience Questionnaire: Reliability and Validity Assessment". Medical Journal of Bakırköy, 15(3), 265-71. https://doi.org/10.4274/BTDMJB.galenos.2019.2019012308235 6
14. Taylor, A, Atkins, R, Kumar, R, Adams, D. and Glover, V. (2005). "A New Mother-To-Infant Bonding Scale: Links With Early Maternal Mood". Archives of Women's Mental Health, 8(1), 45-51. https://doi.org/10.1007/s00737-005-0074-z
15. Karakulak, H.A. and Alparslan, Ö. (2016). "Anne-Bebek Bağlanma Ölçeğinin Türk Toplumuna Uyarlanması: Aydın Örneği". Çağdaş Tıp Dergisi, 6(3), 188-199. https://doi.org/10.16899/ctd.45668
16. Kamiloğlu, N. and Vural, P.I. (2022). "Çocuk Sahibi Olma İsteği Ölçeği'nin Türkçe Geçerlik ve Güvenirlik Çalışması". YOBÜ Sağlık Bilimleri Fakültesi Dergisi, 3(1), 1-13.
17. Tandoğan, Ö. (2021). "Doğum Eyleminde Kullanılan Rebozo Tekniğinin Algılanan Doğum Ağrısına ve Doğum Memnuniyetine Etkisi". Doktora Tezi, İstanbul Üniversitesi-Cerrahpaşa Lisansüstü Eğitim Enstitüsü, İstanbul.
18. Engin, N. and Ayyıldız, T. (2021). "Anne-Bebek Bağlanmasının Annelik Algısı ve Bazı Değişkenlere Göre İncelenmesi". Adnan Menderes Üniversitesi Sağlık Bilimleri Fakültesi Dergisi, 5(3), 583-596. https://doi.org/10.46237/amusbfd.947004
19. Özşahin, Z, Akça, E. and Gökbulut, N. (2020). "Postpartum Depresyon Düzeyi ile Maternal Bağlanma Arasındaki İlişki". İnönü Üniversitesi Sağlık Hizmetleri Meslek Yüksek Okulu Dergisi, 8(3), 715-724. https://doi.org/10.33715/inonusaglik.757249
20. Durcan, E, Turan, S, Bircan, B.E, Yaylamaz, S, Okur, I, Demir, A.N, Sulu, C, Kara, Z, Sahin, S. and Taze, S.S. (2022). "Fertility Desire and Motivation Among Individuals with Gender Dysphoria: A Comparative Study". Journal of Sex and Marital Therapy, 48(8), 789-803. https://doi.org/10.1080/0092623x.2022.2053617
21. Smarandache, A., Kim, T. H., Bohr, Y. and Tamim, H. (2016). "Predictors of a Negative Labour and Birth Experience Based on a National Survey of Canadian Women". BMC Pregnancy and Childbirth, 16(1), 114. https://doi.org/10.1186/s12884-016-0903-2

22. Çankaya, S, Yılmaz, S.D, Can, R. and Kodaz, N.D. (2017). "Postpartum Depresyonun Maternal Bağlanma Üzerine Etkisi". Acıbadem Üniversitesi Sağlık Bilimleri Dergisi, 4, 232-240.

23. Muluneh, M.W. and Moyehodie, Y.A. (2021). "Determinants of Desire for More Children Among Women in Ethiopia". BMC Women's Health, 21, 1-7. https://doi.org/10.1186/s12905-021-01563-3

24. Araban, M, Karimy, M, Armoon, B. and Zamani-Alavijeh, F. (2020). "Factors Related to Childbearing Intentions among Women: A Cross-Sectional Study in Health Centers, Saveh, Iran". Journal of the Egyptian Public Health Association, 95(1), 6. https://doi.org/10.1186/s42506-020-0035-4

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Çevresel Tehlikelerin Belirlenmesi ve Sağlık Etkilerinin İncelenmesi: Gümüşhane Katı Atık Tesisi Örneği

Determination of Environmental Hazards and Investigation of Health Effects: The Case of Gümüşhane Solid Waste Facility

Gökhan KÜLEKÇİ[1], Aslıhan GÜVENDİ[2]

ÖZ

Bu çalışmada, Gümüşhane ilindeki katı atık tesisinin iş sağlığı ve güvenliği Elmeri yöntemi kullanılarak incelenmiştir. Katı atık yönetim süreci, atık toplama, taşıma, ayrıştırma, geri dönüşüm ve bertaraf gibi adımları içermektedir. Bu süreçlerde potansiyel olarak ortaya çıkabilecek; atık toplama sürecinde, keskin kenarlı ve delici maddelerin bulunmasıyla oluşabilecek kesilmeler ve delinmeler, atıkların taşınması sırasında ağır yüklerin kaldırılmasıyla ilgili bel ve sırt yaralanmaları, ayrıştırma işlemi sırasında kimyasal maddelerin sızması veya bu maddelerin solunmasıyla ilgili zehirlenme veya solunum yolu rahatsızlıkları, geri dönüşüm sürecinde kullanılan makinelerin veya ekipmanların yanlış kullanımıyla ilgili kırılma, ezilme veya yakma gibi kazalar, atıkların bertaraf edilmesi sırasında oluşabilecek patlama veya yangın riskleri gibi tehlikeler mevcuttur. Bu tehlikeler, Elmeri yöntemi kullanılarak tanımlanmış, çalışanların ve çevrenin bu tehlikelere maruz kalma düzeyi değerlendirilmiş ve ortaya çıkan riskler belirlenmiştir. Elde edilen sonuçlar, tesis yöneticileri ve ilgili paydaşlar için önemli bir kaynak olabilir ve katı atık yönetiminde daha etkili önlemlerin alınmasına yardımcı olabilir. Bu çalışma kapsamında Elmeri yönteminde belirtilen 7 ana başlık altında toplanan metotlara göre çalışma alanlarında toplam 494 adet gözlem yapılmıştır. Yapılan gözlemlerden 239 tanesi doğru güvenlik davranışı ve durumları belirtirken 255 tanesi yanlış güvenlik davranış ve durumlarını belirtmektedir. Gözlem sonuçlarına göre çalışma alanlarındaki en yüksek mevcut güvenlik endeksi % 57,2 ile atık toplama gündüz vardiyası, en düşük indeks ise % 29,3 ile atık ayrıştırma kısmında hesaplanmıştır.

Anahtar Kelimeler: Elmeri Yöntemi, Güvenlik Endeksi, İş Sağlığı ve Güvenliği, Katı Atık Yönetimi.

ABSTRACT

In this study, the solid waste facility in Gümüşhane province was examined in terms of occupational health and safety using the Elmeri method. The solid waste management process includes steps such as waste collection, transportation, separation, recycling and disposal. What may potentially arise in these processes; Cuts and punctures that may occur due to the presence of sharp-edged and piercing materials during the waste collection process, waist and back injuries related to lifting heavy loads during the transportation of waste, poisoning or respiratory diseases due to the leakage of chemical substances or inhalation of these substances during the separation process, the use of machines used in the recycling process or There are dangers such as accidents such as breaking, crushing or burning related to misuse of equipment, and explosion or fire risks that may occur during waste disposal. These hazards were identified using the Elmeri method, the exposure level of employees and the environment to these hazards was assessed, and the resulting risks were identified. The results obtained can be an important resource for facility managers and relevant stakeholders and help take more effective measures in solid waste management. Within the scope of this study, a total of 490 observations were made in the study areas according to the methods collected under 7 main headings specified in the Elmeri method. While 239 of the observations indicate correct security behaviors and situations, 255 indicate incorrect security behaviors and situations. According to the observation results, the current safety index in the study areas was calculated as 48.3%.

Keywords: Elmeri Method, Safety Index, Occupational Health and Safety, Solid Waste Management.

[1] Doç. Dr. Gökhan KÜLEKÇİ, Gümüşhane Üniversitesi, Mühendislik ve Doğa Bilimleri Fakültesi, Maden Mühendisliği Bölümü, gkulekci@gumushane.edu.tr, ORCID: 0000-0002-2971-4045
[2] B sınıfı İş Güvenliği Uzmanı, Aslıhan GÜVENDİ, Gümüşhane Üniversitesi, Sağlık Bilimleri Fakültesi, İş Sağlığı ve Güvenliği Bölümü, asli.guvendi@hotmail.com ORCID: 0000-0002-8331-232X

İletişim / Corresponding Author: Gökhan KÜLEKÇİ
e-posta/e-mail: gkulekci@gumushane.edu.tr

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GİRİŞ

Atık yönetimi ve atık bertarafı, Dünya üzerinde gün geçtikçe önem kazanmaktadır [1-2]. Bu konuda yapılan çeşitli literatür çalışmaları bulunmaktadır [3-7]. Bu çalışmaların bir kısmı maden atıkları üzerine yapılırken diğer bir kısmı ise evsel katı atıkları bertarafı ve depolanması üzerinedir [7-10]. Gerek atık maden atıkları gerekse de evsel atıkların bertarafı işçi sağlığı ve iş güvenliği açısından sürekli çalışılan ve irdelenen konulardandır. [10-15]. Dünya üzerinde birçok çalışmada yer verilen atık yönetimi Türkiye de de oldukça bakir bir konudur [12-13]. Türkiye'de hızla artan nüfus, göç ve sağlıksız kentleşme ile birlikte toplam katı atık (çöp) miktarı çok yüksek seviyelere ulaşmıştır [12-14].

Son dönemde Türkiye'de katı atık sorununun önemi artmış, birçok il ve belediye için önemli bir çevre sorunu haline gelmiş ve bu konu üzerinde tartışmalara yol açmıştır[13-15]. Sanayi ve teknolojinin hızla gelişmesi, bir yandan insanların doğa üzerinde kendi kaderini tayin hakkını artırıp yaşam standardını yükseltirken, diğer yandan nüfus artışı ve hızlı kentleşme sonucunda dengelerin giderek zayıflamasına neden olur.[13] Kentleşmeyle birlikte kentsel alanlarda artan katı atık miktarı doğal ekosistemler ve insanlar açısından önemli bir tehdit unsuru haline gelmiştir.[14] Doğaya giren katı atıklar bozulabildiği kadar ekosisteme karışır ve kolayca ayrışarak doğanın döngüsüne karışır. Döngüye katılan atık miktarı artarsa doğal denge bozulur.[15] Katı atık yönetimi, çeşitli kaynaklardan gelen ve doğada çözünmeyen veya çözünmesi uzun süren maddelerin etkin bir şekilde işlenmesini gerektirir. Katı atıklar, genel olarak evsel atıklar, endüstriyel atıklar, tarım atıkları, tıbbi atıklar, elektronik atıklar ve tehlikeli atıklar olarak sınıflandırılır. Evsel atıklar, günlük yaşam faaliyetlerimiz sonucu oluşan yiyecek artıkları, sebze ve meyve kabukları gibi organik atıkları, gazete ve karton kutular gibi kağıt ve karton atıkları, plastik şişeler ve ambalaj malzemeleri gibi plastik atıkları, cam şişeler ve kavanozlar gibi cam atıkları ve teneke kutular ile metal kapaklar gibi metal atıkları içerir. Ayrıca, evlerde kullanılan küçük elektronik cihazlar ve piller de evsel atıklar kategorisine girer. Bu atıkların doğru bir şekilde yönetilmesi, geri dönüştürülmesi ve atık miktarının azaltılması, doğal dengenin korunması ve çevre kirliliğinin önlenmesi açısından büyük önem taşır. Bu dengenin korunması adına Gümüşhane belediyesinin 2015 yılında kurduğu, evsel atık toplama ayrıştırma bölümü, atıkların faydalı bir şekilde bertarafının sağlanmasını amaçlamıştır. Gümüşhane'de katı atık yönetimi, yerel belediyeler tarafından yürütülmekte ve Gümüşhane ilinde ve ilçelerinde üretilen katı atıkların toplanması, yönetilmesi ve bertaraf edilmesi gibi konuları içermektedir. Bu atıkların geneli insanlar tarafından atılan veya ihtiyaç duyulmayacak materyallerdir. [17]

Evsel atıkların yönetim amacı, işletme içerisine gelen atıkların çevresel ve çalışanlar üzerindeki etkilerini en aza indirmek veya ortadan kaldırmaktır. Bu anlamda atık yönetiminin, atıkların en aza indirilmesi, kullanılması, yeniden kullanılması, verimliliğin ve istihdamın arttırılması ile ilgili ekonomik, çevre kirliliğinin önlenmesi ile ilgili önleyici-koruyucu yönü bulunmaktadır.[16] Bu koruyucu önleyici yöntemler; atıkların azaltılması, geri dönüşüm, kompostlaştırma, yakma ve depolama şeklindedir.[17-20]

Tüm dünyada ve ülkemizde iş kazaları ve meslek hastalıkları birçok çalışanın hastalanmasına, yaralanmasına, sakat kalmasına ve hatta hayatlarını kaybetmesine sebep olmaktadır. Günümüzde işletmeler birçok risklerle karşı karşıya kalmaktadırlar. İşletmeler ayakta kalabilmek, sürdürülebilir rekabet üstünlüğü ve kar elde edebilmek için çalışanlarını korumak, üretim güvenliğini sağlamak ve işletme güvenliğini sağlamak zorundadırlar.[20] İş sağlığı ve güvenliği (İSG) çalışma ortamlarında çalışanların sağlığını ve güvenliğini korumayı amaçlayan bir disiplindir. İSG, işyerlerinde olası tehlikelerin tanımlanması, bu tehlikelerin önlenmesi veya kontrol altına alınması, iş kazalarının ve meslek hastalıklarının önlenmesi için çeşitli önlemlerin alınması gibi konuları kapsar. İş sağlığı ve güvenliği konusu katı atık

tesislerinde de önemli rol oynamaktadır. Çalışanların sağlığı ve güvenliğini korumak için adımlar izlemektedir.

İşyerlerinde türlü sıkıntılar zararlı olmayan oranlara çekilebilir veya tamamı ortadan kaldırılarak asıl hedeflenen kabul edilebilir risk seviyesine getirilir. Bu amaçla iş mahallindeki risk değerlendirme çalışmaları doğrultusunda sağlık için aykırılıkların ve ters hususların ele alınması, çalışanların iş bölgelerinde koşullarının iyi olması, etkin eğitim sürekliliği ve tüm bunların bir denge içerisinde olması gereklidir.[17]

Risklerin kontrolünü sağlamak, önlemler geliştirilerek, önleyici tedbirlerin belirlenmesi için farklı risk analizi metotları mevcuttur. Genel olarak en çok kullanılan risk analiz metotları; L Tipi Matris Analiz Metodu, X Tipi Matris Analizi, Fine-Kinney Metodu, Hata Türleri ve Etki Analizi (FMEA), Ön Tehlike Analizi (PHA), Hata Ağacı Analizi (FTA), Tehlike ve İşletebilme Analizi (HAZOP), Olay Ağacı Analizi (ETA) ve Elmeri Yöntemi vb. şeklinde sıralanabilir.

Elmeri yöntemi imalat sanayii için güvenilir bir iş sağlığı ve güvenliği (İSG) izleme aracıdır. Her sanayii sektöründeki her büyüklükteki her türlü işyeri için kullanması kolay ve hızlı bir araçtır.[17-19] Elmeri yöntemi, güvenlik davranışlarına ve çalışmanın yapıldığı ortamdaki dikkate değer bütün İSG koşullarının güvenilir bir şekilde gözlemlenmesi esasına dayanmaktadır.[19-21] Bu bağlamda katı atık tesislerinde bulunabilecek tehlike ve risklerin Elmeri yöntemi ile analiz edilerek, hem çalışanların sağlığı ve güvenliği hem de çevre sağlığı ve güvenliği açısından önerilerde bulunulması hedeflenmektedir.

Bu çalışma, Gümüşhane ilinde bulunan katı atık tesisinin işleyiş süreçlerinin, çalışan sağlığı ve güvenliğini, toplum sağlığı ve güvenliğini olumsuz yönde etkileyebilecek tehlikelerin ortaya çıkarılmasını ve bu tehlikelerden kaynaklanacak risklerin Elmeri yöntemi ile analiz edilmesini amaçlamaktadır. Bu amaç doğrultusunda tespit edilecek tehlike ve risklerin sebep olabileceği olumsuz sağlık sorunlarının önüne geçilebilmesi, insan ve çevre sağlığının korunması, atıklardan kaynaklı toksik kimyasal maddelerin su kaynaklarına, toprağa ve atmosfere yayılımının önlenebilmesi için önerilerde bulunulması hedeflenmektedir. Bunlara ek olarak toplumun katı atıklardan kaynaklanabilecek tehlike ve riskler hakkında farkındalık sağlanması hedeflenmektedir.

MATERYAL VE METOT

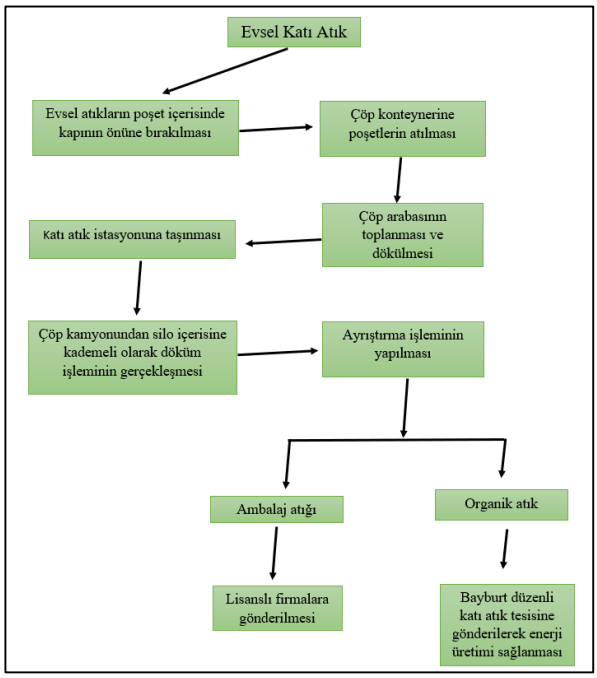
Çalışma Alanı

Bu çalışmanın yapıldığı katı atık tesisi, Gümüşhane yerel yönetim birliğine bağlı katı atık aktarma istasyonudur. Bu istasyon 2019 yılında çalışmalarına başlamıştır (Şekil 1).

Şekil 1. Gümüşhane Katı Atık Tesisi

Tesis içerisinde atık toplama, taşıma, ayrıştırma işlemi yapılmakta olup geri dönüşüm, bertaraf işlemleri için yetkili firmalara gönderilmektedir. İşletme içerisine, merkez ve ilçelerden gelen çöp atıkları ve suyu katı atık aktarma istasyonuna gelmektedir. İlk olarak tesise gelen evsel atıklar kantarda tartılarak silolara dökülür. Sonrasında, silolardaki bu atıklar, *Elmeri Metodu kullanarak katı* silolardan konveyör bantlara geçer ve bu bantlar üzerinde el ile ayrıştırma yapılır. Kâğıt, cam, plastik vb. malzemeler ayrıştırılarak atık kumbaralarından üçüncü silo presleme alanına taşınmaktadır. Preslenen atıklar depo alanına gönderilerek lisanslı firmalara satışı yapılmaktadır. Satılmayan organik atıklar ise semitray denilen kamyon ile birlikte Bayburt düzenli katı atık tesisine gönderilerek

biyometanizasyon elektrik üretimi gerçekleştirilmektedir. Şekil-2'de katı atık işleme süreçleri belirtilmiştir.



Şekil 2. Evsel Katı Atık İşleme Akış Şeması

İş Sağlığı ve Güvenliği Uygulaması

Gümüşhane ili katı atık aktarma istasyonu tesis çalışanlarına, iş sağlığı ve güvenliği konularında düzenli eğitimler verilir. Bu eğitimler, atık yönetimi süreçleri, tehlikelerin tanımlanması, güvenli çalışma uygulamaları, kişisel koruyucu ekipmanların kullanımı ve acil durum prosedürleri gibi konuları kapsar. Çalışanlara gerekli kişisel koruyucu donanım (KKD) sağlanır. Bu ekipmanlar, başta koruyucu eldivenler, gözlükler, kulak koruyucuları, solunum cihazları vb. olmak üzere çeşitli tehlikelere karşı koruma sağlar. Tesis alanında acil durum prosedürleri belirlenir ve tüm çalışanlara öğretilir.

Çalışma alanı içerisinde potansiyel tehlikelerin belirlenmesi ve değerlendirilmesi için düzenli olarak risk değerlendirmesi yapılır. Bu, işyerindeki potansiyel tehlikelerin tanımlanmasını, risklerin derecelendirilmesini ve uygun önlemlerin alınmasını sağlar.

Elmeri Yöntemi ve Temel Prensipleri

Bu çalışmada Elmeri risk analiz yöntemi kullanılmıştır. Bu yöntem 1990'lı yıllarda Finlandiya'da Heikki Laiinen tarafından geliştirilmiştir.[22] Elmeri gözlem yönteminin pratikliği yöntemin seçilmesindeki en önemli nedendir. Elmeri gözlem yönteminin amacı, işyerinde iş sağlığı ve güvenliği düzenlemelerinden sorumlu kişilerin, tespit edildikleri alanlarda tehlikelerden kaynaklanan riskleri çok hızlı ve kolay bir şekilde tespit edebilmelerini sağlamaktır. Elmeri Gözlem Yöntemi, işyerindeki iş sağlığı ve güvenliği koşullarını incelemektedir. Bulgular ise toplam 7 gruba odaklanmaktadır [18]:

- Güvenlik davranışı,
- Düzen ve temizlik,
- Makine güvenliği,
- İş hijyeni, ergonomi,
- Zeminler ve koridorlar,
- İlk yardım ve yangın güvenliği.

Elmeri Güvenlik Endeksi, işyerlerine İSG koşulları hakkında olumlu bilgiler sağlar ve şirketin gelecekteki İSG adımlarına giden yolu haritalandırır. Gözlemden elde edilen endeks değerinin yüksek olması kaza olasılığının düşük olduğunu, endeks puanının düşük olması ise kaza olasılığının yüksek olduğunu göstermektedir [16]. Bu yöntem web performansını ölçmek için proaktif bir yöntem olarak kullanılır. Elmeri yöntemiyle kazaların olası nedenlerini tahmin etmek mümkün olmaktadır. Elmeri, işyerinde iş sağlığı ve güvenliği yönetim sisteminin etkinliğine ilişkin sayısal bilgiler sunmaktadır.[18]

Gözlemlenen unsurun yasaların ve Elmeri gözlem kurallarının iyi işyeri uygulamaları olarak belirlediği asgari iş güvenliği koşullarını karşılaması durumunda bu unsur "*doğru*" olarak değerlendirilir; aksi takdirde "*yanlış*" olarak değerlendirilir. Eğer izleme turu esnasında puanlanamayan bir unsur varsa ya da gözlemci herhangi bir unsuru nasıl puanlayacağı konusunda emin olamıyorsa, bir "*gözlem yapılmadı*" diye belirtilir. Endüstriyel hijyen ölçümleri gibi özel tetkiklere kimi durumlarda değerlendirme yapılmadan önce ihtiyaç duyulabilir.[17-24] Gözlem tamamen bittikten sonra hesaplama yapılarak, gözlem yapılan alanlardan çıkan sonuçlar yüzde oranı olarak hesaplanmaktadır[25].

Potansiyel ve Çevresel Tehlikelerin Belirlenmesi

Gümüşhane ili katı atık tesisi incelendiğinde toplama, taşıma, ayrıştırma işlemleri yapılırken oluşabilecek tehlike ve risk potansiyellerinin oluşabileceği belirlenmiştir. Tesis içerisinde veya evsel atıkların toplanması, taşınması sırasında hava, su ve toprak kirliliklerine neden olabileceği, çalışanların oluşan kokudan ve temas ettiği atıktan oluşabilecek hastalıkların oluşabileceği tanımlanmıştır. Katı atık tesisinin çevresel ve sağlık risk ve tehlikelerini değerlendirmek için Elmeri gözlem metodu uygulanmalıdır. Analiz sonucunda çıkabilecek tehlike ve riskler için uygun önlemlerin alınması gerekecektir. Çalışanların sağlığını etkileyebilecek durumların önceden bilinmesi sağlanacaktır.

Sağlık Etkilerinin İncelenmesi

Katı atık tesislerinde çalışanlar için sağlık etkileri çeşitli olabilir ve genellikle işin doğası, atıkların bileşimi ve işleme yöntemleri ile ilişkilidir. Çalışanlara etki edebilecek hastalık ve sorunlar vardır. Atık tesislerinde çeşitli işlemler sırasında havaya kirletici maddeler salınabilir. Bu maddeler arasında toz, kimyasal buharlar, organik gazlar ve diğer hava kirleticiler yer alabilir. Uzun süre maruz kalma solunum yolu hastalıklarına, astım, bronşit gibi solunum problemlerine ve hatta kansere neden olabilir. Çalışanlar atık malzemelerin içerdiği kimyasallara maruz kalabilirler. Bu kimyasallar, atık bileşimine ve işleme yöntemlerine bağlı olarak farklılık gösterebilir. Maruz kalma cilt irritasyonuna, alerjik reaksiyonlara, deri yanıklarına ve diğer cilt problemlerine neden olabilir. Organik maddelerin parçalanması sırasında oluşan biyo-aerosoller, çalışanların solunum sistemine zarar verebilir. Bu biyo-aerosoller, solunum yolu enfeksiyonlarına, alerjik reaksiyonlara ve akciğer hastalıklarına neden olabilir.

Gözlem Yöntemi ve Veri Toplama Süreci

Katı atık tesisindeki gözlem, tesisin işleyişini, atık yönetimi süreçlerini ve çalışma koşullarını anlamak için kullanılmaktadır. Tesis içerisinde ve dışında atık toplama ve taşıma işinde çalışanların faaliyetlerini gözlemleyerek çevresel tehlikeleri ve sağlık etkileri belirlenecektir.

Elmeri Metodunu kullanarak, katı atık tesisinde risk değerlendirme süreçlerini şu şekilde sıralayabiliriz:

- Hangi tür katı atıkların nerede ve ne kadar üretildiği ve bu atıkların bileşimi, miktarı, kaynakları ve dönüşüm potansiyeli gibi bilgiler elde edilecektir.
- Elmeri Metodu ile yapılan gözlem sonucu katı atıktaki risklere yönelik sözel ve sayısal bilgiler elde edilecektir.
- Katı atıkların çevresel etkilerini ve ortaya çıkan riskleri azaltmaya yönelik farklı atık yönetim stratejilerini inceleyerek, hangi stratejilerin daha etkili olduğuna dair bulgular sunabilecektir.
- İlgili Mevzuat ile birlikte katı atık tesisinde olabilecek tehlike ve riskler ile ilgili önlemler alınarak oluşabilecek tehlikeler en aza indirilebilecek.

Katı atık tesislerinde çalışanların ne tür tehlikelere maruz kaldığı çalışma alanlarında düzenlemeleri belirleyerek toplu ve kişisel koruma önlemleri alınabilecektir.

Elmeri Yönteminin Uygulanması

Elmeri gözlem yöntemi ile çalışma yapılan katı atık tesisinin, genel iş sağlığı ve güvenliği koşullarının değerlendirilebilmesi için tablo 1 ve 2'deki gözlem formunun doldurulması gerekmektedir.

Elmeri yöntemi kalite sistemine yansıtılır ve kullanılır. İş güvenliği uzmanlarının ve şirket yetkililerinin durumu izlemesine olanak sağlamak amacıyla işyerinde görünür yerlere düzenli gözlemler tasarlanmakta ve asılmaktadır. Bu anlamda sorunların bildirilmesi önemlidir. Aşağıda çalışmaya ilişkin bilgilerle birlikte raporlamada kullanılabilecek ana başlıklar yer almaktadır;

- İşyerinin adı ve adresi,
- Gözlem tarihi, Gözlemci(ler),
- Gözlem birimi,
- Gözlem numaraları ve indeksleri,

- Açıklamalar,
- Düzeltme için gerekli açıklamalar,
- Gözlem sırasında çekilen fotoğraflar.

Elmeri gözlem metodu çalışma alanında her bir çalışan için yapılır. Gözlem yapılamıyorsa çalışma alanında çalışan mevcut değil ise 'Gözlem yapılamadı.' diye yazılır. Tablo-2'deki doğru puanlamasında dikkate alınacak kriterler Elmeri metot formuna uygulanır. Uygulanan gözlem süresi her bir nokta için 10 dk sürmektedir.

Gümüşhane katı atık tesisinde Toplama, Taşıma ve Ayrıştırma süreçleri Elmeri yöntemi ile risk analizi yapılmıştır. Her aşamanın risk analiz formları gece ve gündüz vardiyalarında ayrı ayrı yapılmıştır.

Atık Toplama

Gümüşhane katı atık tesisinde yapılan gündüz ve gece vardiyalarında toplama işlemi yapan çalışanlara Elmeri gözlem metodu 3 çalışan üzerinde uygulanmıştır. Uygulama çalışma yapılan alanda 10 dk gözlem yapılarak gerçekleştirilmiştir. Güzergâh üzerinde gündüz vardiyası 10 noktada gözlem yapılmıştır. Gece vardiyasında 6 noktada 10 dk gözlem yapılarak gerçekleştirilmiştir.

Atık Taşıma

Gümüşhane Belediyesi ve Katı atık tesisinde yapılan gündüz ve gece vardiyasında toplama işlemi bittikten sonra taşıma işlemi yapan çalışanlara Elmeri gözlem metodu 3 çalışan üzerinde uygulanmıştır. Uygulama çalışma yapılan alanda 10 dk gözlem yapılarak gerçekleştirilmiştir. Gündüz ve gece vardiyasında gerçekleştirilen gözlem Gümüşhane Belediyesi ve Katı atık aktarma istasyonu güzergahı arasında yapılmıştır. Gözlem sonucunda çıkan tehlike ve risk açıklama kısmında belirtilerek tablo üzerinde ise doğru ya da yanlış olarak işaretlenmiştir.

Ayrıştırma

Çalışma sahasında, iş akış şemasındaki son başlık olan katı atık ayrıştırma başlığında gündüz ve gece vardiyalarında risk analizi yapılmıştır. Tesis içerisinde çöp arabası kademeli olarak atıkları boşaltma işlemi yapmaktadır. Elmeri gözlem metodu 5 çalışan üzerinde uygulanmıştır. Bu yöntem ile, çalışma yapılan alanda 10'ar dakikalık 5 gözlem yapılmıştır. Gündüz ve gece vardiyasında gerçekleştirilen gözlem Katı atık aktarma istasyonunda yapılmıştır. Gözlem sonucunda çıkan tehlike ve risk açıklama kısmında belirtilerek tablo üzerinde ise doğru ya da yanlış olarak işaretlenmiştir.

Tablo 1. Elmeri Metot Boş Gözlem Formu [14]

Gözlem Yapan Kişi			
Çalışma Alanı			
	Doğru	**Yanlış**	**Açıklama**
Güvenlik Davranışı Kişisel koruyucu donanımların (KKD) kullanımı ve tehlike			
Düzen ve Temizlik Çalışma sahası, yapılan iş ve işlemler, Araç yüzeyleri, Evsel atık kutuları, Basamak, zemin platform ve yüzeyleri,			
Makine Güvenliği Ekipmanların ve makinelerin koruyucu muhafazaları, İş kamyonunun periyodik kontrolleri, Kontrol paneli ve acil durdurma butonları			
Endüstriyel hijyen Gürültü, Aydınlatma, Hava Kalitesi, Sıcaklık Koşulları, Kimyasallar			
Ergonomi Kas, eklem ağrıları Çalışma ortamı ve pozisyonu Elle ağır yük taşıma			
Zeminler ve geçiş yolları Zemin ve geçiş yollarının yapısı Uyarı levhaları			

Tablo 1. (Devamı)

İlkyardım ve yangın güvenliği		
Elektrik dağıtım kutuları		
İlkyardım dolapları		
Yangın söndürücüler		
Acil durum çıkışları		
Toplam		
	Elmeri Endeksi	$\frac{\text{Doğru}}{\text{Doğru} + \text{Yanlış}} \times 100$

Tablo 2. Doğru Puanlamasında Dikkate alınacak Kriterler [14]

Konular	'Doğru' Puanlamasında dikkate alınacak kriterler
Güvenlik Davranışı: Her çalışan için bir gözlem yapılır.	
KKD kullanımı ve tehlike	Tüm KKD'ler kullanılıyor ve görünen bir risk alınmıyor. KKD'ler ile ilgili eğitimleri alıyor. Sağlık tetkikleri yapılıyor.
Düzen ve Temizlik: Her çalışma alanı için üç gözlem yapılır.	
Çalışma sahası, yapılan iş ve işlemler, araç yüzeyleri *Evsel atık kutuları* *Basamak, zemin platform ve yüzeyleri*	Çalışırken engel olabilecek gereksiz malzemelerin bulunmaması, taşma durumunun olmaması. Evsel atık kutularında hasar bulunmaması, dolup taşmaması. Çalışma alanındaki zeminin kırık, çukur, kaygan vb. olmaması.
İş Makineleri ve Makine Güvenliği: Her çalışma alanı için 3 gözlem yapılır.	
Ekipmanların ve makinelerin koruyucu muhafazaları *İş kamyonunun periyodik kontrolleri* *Kontrol paneli ve acil durdurma butonları*	Acil durdurma butonları iş kamyonları ve çalışma alanlarının içerisinde mevcut, sağlam, çalışır durumda olması Acil durum ile ilgili işaret uyarı ikazların durumu iyi kullanılabilir durumda olması Kullanılan iş ekipmanlarının ilgili yönetmelik gereği düzenli bakımlarının yapılması
Endüstriyel Hijyen: Her çalışma alanı içim 5 gözlem yapılır.	
Gürültü *Aydınlatma* *Hava Kalitesi* *Sıcaklık Koşulları* *Kimyasallar*	Çalışma alanları içerisinde gürültü <85 dB(A) ve darbe gürültüsünün olmaması Aydınlatmanın yeterli olması, göz kamaştıran ışık olmaması Hava temiz, sağlıklı, havalandırma yeterli, Lokal ve doğal havalandırma mevcut olması Sıcaklık, hava hızı, nem uygun olması Kimyasal atıkların çalışma alanı içerisinde olmaması Toz oluşumunu engelleyici önlemlerin alınması
Ergonomi: Her çalışma alanı için 3 gözlem yapılır.	
Kas, eklem ağrıları *Çalışma ortamı ve pozisyonu* *Elle ağır yük taşıma*	Ağır yüklerin taşırken fiziksel güç kullanılmıyor, çekilmiyor ve itilmiyor olması. Tekrarlanan el ve vücut hareketlerinin olmaması. Çalışma alanları ayakta duruş bozukluğuna sebep olmayacak şekilde olması. Oturarak yapılan çalışmalarda ergonomik olması
Zemin ve Geçiş Yolları: Her çalışma alanı için 2 gözlem yapılmıştır.	
Zemin ve geçiş yollarının yapısı *Uyarı levhaları*	Çalışma yüzeylerinin alanları bozuk ve hasarlı değil, yeterli alan mevcut ve genişlikte olması Yüksekte çalışma yapılmıyor olması Yüksekteki yerlere ulaşmak için sabit merdiven kullanılması İşyeri içerisinde gerekli uyarı levhalarının olması ve uygun yerlere asılmış olması
İlkyardım ve Yangın Güvenliği: Her çalışma alanı için ve çalışma alanına yakın alanlar için beş gözlem yapılmıştır.	
Elektrikli cihazlar *İlkyardım dolapları ve ilkyardımcı çalışanlar* *Seyyar yangın söndürücüler* *Yangın tatbikatları* *Acil çıkış yönleri ve acil durumlar*	Elektrikli cihazlar kullanılabilir durumda, deforme olmadan kullanılması Gerekli tüm ilkyardım malzemelerinin mevcut olması, kullanılabilir durumda olması Çalışılan alanda tehlike sınıfı ve çalışan sayısına uygun olarak ilkyardımcı bulundurulması Yılda bir kez tatbikatların yapılması Yangın tüplerinin kullanılabilir durumda olması ve düzenli aralıklarla kontrollerinin yetkili kişilerce yapılması Bozuk arızalı yangın tüplerinin yetkili bayilere gönderilerek bakım onarımlarının yapılması Acil çıkış yönlerinin mevcut olması, elektrik olmadığı durumda görünür şekilde işaretlenmesi

BULGULAR VE TARTIŞMA

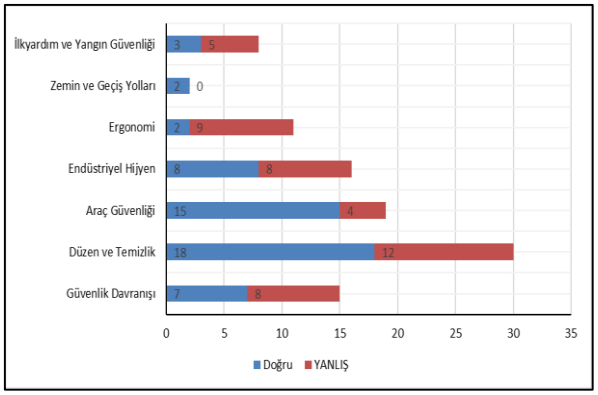
Gümüşhane katı atık tesisinde Toplama, Taşıma ve Ayrıştırma süreçleri Elmeri yöntemi ile risk analizi yapılmıştır. Her aşamanın risk analiz formları gece ve gündüz vardiyalarında ayrı ayrı yapılmıştır. Bulgular başlıklar halinde aşağıda incelenmiştir

Atık Toplama

Gümüşhane katı atık tesisinde yapılan gündüz ve gece vardiyalarında toplama işlemi yapan çalışanlara Elmeri gözlem metodu uygulanmıştır. Gözlem sonucunda çıkan tehlike ve risk açıklama kısmında belirtilerek tablo üzerinde ise doğru ya da yanlış olarak işaretlenmiştir. Atık toplama da yapılan gözlemde Elmeri endeksi gündüz vardiyası 57,2, gece vardiyası %54,7'dir. Toplam Elmeri endeksi ise 56,25 şeklinde hesaplanmıştır.

Gümüşhane katı atık tesisi işletmesine evsel atıklar gelmeden önce toplanma aşaması yetkili kurum tarafından gerçekleşmektedir. Tablo-3 ve Tablo-6'da Atık Toplama Elmeri Metodu (Gece-Gündüz vardiyası) gösterilmiştir.

Yapılan gözlemler sonucu gözlenen olumlu ve olumsuz durumlar Tablo 4, 5, 7 ve 8 de verilmiştir.



Şekil 3. Atık Toplama Elmeri Yöntemi Gündüz Vardiyası

Gümüşhane katı atık tesisinde atık toplama işleminde 96 gözlem yapılmıştır. Gündüz gözlemleri risk analizleri sonucunda 55 doğru 49 yanlış davranışla karşılaşılmıştır (Tablo 3 ve Şekil 3). Karşılaşılan problemlerin daha çok düzen ve temizlik başlığında olduğu görülürken aynı başlıkta da 18 doğru ile en fazla doğru davranış gözlemlenmiştir. Toplama işleminde en önemli parametrelerden biri olan araç güvenliğinde ise doğru davranış 15 yanlış davranış ise 4 olarak gözlemlenmiştir (Şekil 3).

Tablo 3. Atık Toplama Elmeri Gözlem Formu (Gündüz Vardiyası)

Konular	Doğru	Toplam	Yanlış	Toplam	Açıklamalar
1.Güvenlik davranışı 1.1. KKD Kullanımı ve Risk Alma	///////	7	////////	8	Kullanılması gereken KD'lerden 2 iş ayakkabısı,2 eldiven, 2iş kıyafeti, 1leflektörlü yelek kullanıldığı gözlemlenmiştir.
2. Düzen ve temizlik 2.1. Çalışma alanları, çevre ve yüzeyleri	////	4	///	3	Gözlem alanındaki 4 noktada çalışma alan ve güzeyleri ile ilgili problem olmadığı gözlemlenmiştir.
2.2. Atık Kutusu	//////////	10	/////	5	Atık kutusu 10 noktada dolu ve ağır olmadığı gözlemlenmiştir.
2.3. Zemin ve Platform Basamak	////	4	////	4	Zemin yüzeyi ile ilgili 4 noktada çalışma alanı içerisinde çalışmayı engelleyebilecek durumların olmadığı gözlemlenmiştir.
3. Araç güvenliği 3.1. Atık Toplama ve araç koruyucuları	/////////	9			Araç koruyucuları 9 noktada çalışma yapılırken zarar görmediği gözlemlenmiştir.
3.2. Araç Kontrol Listesi	//////	6	////	4	Araç Kontrol listesi aylık 3 araç için 2 defa yapıldığı gözlemlenmiştir.
4. Endüstriyel hijyen 4.1. Gürültü			//////	6	Çalışma esnasında gürültü seviyesi 6 nokta için 85 dB den yüksek olduğu gözlemlenmiştir.
4.2. Aydınlatma	/////	4			Aydınlatma çalışma alanı içerisinde 4 noktada yeterli düzeyde olduğu gözlemlenmiştir.

Tablo 3. (Devamı)

4.3. Hava Kalitesi	//	**2**			**Hava kalitesi için gözlem 2 noktada yapılmıştır. Çalışan maske taktığı gözlemlenmiştir.**
4.4. Sıcaklık Koşulları	//	2	///	3	2 çalışan kış şartlarına uygun olarak kışlık iş kıyafetlerinin olduğu gözlemlenmiştir.
5. Ergonomi 5.1. Kas İskelet Sistemi Rahatsızlıkları			/////	5	Kas iskelet sistemi ile ilgili doğru gözlem yapılamamıştır.
5.2. Çalışma Alanı ve duruşu	//	2	////	4	Çalışma alanı 2 kişinin koordineli çalışması ile yürütüldüğü gözlenmektedir.
6. Zemin ve geçiş yolları 6.1. Zemin ve Geçiş Yolları Yapısı	//	2			Çöp arabasının arka tarafında 2 çalışanın mevcut olması ve geçiş güzergahlarında çukur engebeli durumların olmadığı gözlemlenmiştir.
7. İlkyardım ve yangın güvenliği 7.1. ilkyardım	/	1			İlkyardım çantasının 1 tane olduğu gözlemlenmiştir.
7.2. Yangın Söndürücü		0			Yangın söndürücü çalışma alanı içerisinde olmadığı için gözlem yapılamamıştır.
7.3. Acil Durum Bildirimi	//	2			Acil durum butonları mevcut ve çalışır durumda olduğu gözlemlenmiştir.
	Toplam	**55**	**Toplam**	**41**	
	Elmeri Endeksi		**%57,2**		

Tablo 4. Atık Toplama Elmeri Yöntemi Gündüz Vardiyasında Karşılaşılan Olumlu Açıklamaları

Konular	Açıklama
1.Güvenlik Davranışı	Çöp kamyonlarına çöp toplanması esnasında çalışanların iş kıyafetlerini giydikleri gözlemlenmiştir.
2. Düzen ve Temizlik	Çalışanlar çöp arabasının basamaklarına binmeden önce kontrolleri yaptığı gözlemlenmiştir. Atık kutusunun toplanması esnasında taşma, dökülme olmadığı ve çalışanın çöp atıklarına birebir temas etmediği gözlemlenmiştir. Anayol yol üzerinde atık toplama yapılması esnasında dökülen çöp sularının çevre bantları ile toplandığı gözlemlenmiştir. Anayol üzerinde atık toplama esnasında yol zemini üzerinde bulunan çukurlardan zıplama riskine karşı çalışanların şoförün yanında seyrettikleri gözlemlenmiştir.
3. Araç Güvenliği	Çöp kamyonu atık toplama esnasında ezik kırık gibi tehlikeli olayların meydana gelmemesi için birbirlerine komut vererek çalıştıkları gözlemlenmiştir. Araç kontrol listeleri ayda 1 düzenlenerek yetkili amirlerine teslim edildiği gözlemlenmiştir.
4. Endüstriyel Hijyen	Normal çalışma durumunda çalışma alanında gürültü seviyesi 85 desibel (dB) altında olduğu gözlemlenmiştir. Gündüz çalışma yapıldığı ve çalışma alanı açık alan olduğundan aydınlatma seviyesinin yeterli olduğu gözlemlenmiştir. Oluşabilecek kokuya karşı maske kullanımı mevcut olduğu gözlemlenmiştir. Sıcaklık koşulları çalışanların kışlık iş kıyafetlerinin bulunduğu ve hava koşullarına uygun olarak şoförün yanında seyir halinde bulundukları gözlemlenmiştir.
5. Ergonomi	Çalışma esnasında araca yakınlaştırma komut verilerek çalışanların kendisi yapmaktadır, Çöp konteynırı araca takılarak kaldırma işlemi otomatik kuvvetle yapıldığı gözlemlenmiştir.
6. Zemin ve Geçiş Yolları	Gözlem yapılan alanda engebe çukur olmadığı gözlemlenmiştir.
7. İlkyardım ve Yangın Güvenliği	Acil Durdurma butonlarının mevcut olduğu ve çalışır durumda olduğu gözlemlenmiştir. Acil durum planlarının yapıldığı gözlemlenmiştir. Yıllık tatbikatlarının yapıldığı gözlemlenmiştir. İlkyardımcı eğitimi alan personel mevcut olduğu gözlemlenmiştir.

Tablo 5. Atık Toplama Elmeri Yöntemi Gündüz Vardiyasında Karşılaşılan Olumsuzlukların Açıklamaları

Konular	Açıklama
1.Güvenlik Davranışı	KKD kullanımında eldiven bazı noktalarda uygulanırken bazı çöp kovalarına temas edilirken takılmadığı gözlemlenmiştir. Gözlük ve maske kullanımının olmadığı gözlemlenmiştir. 3 çalışandan 1 tanesinin iş ayakkabısı giymediği ve iş kıyafeti giymediği gözlemlenmiştir.
2. Düzen ve Temizlik	Çöp arabası basamak kısmında koruma korkulukların çalışanın düşmesini engelleyecek durumda olmadığı gözlemlenmiştir.

Tablo 5. (Devamı)

	Gözlem yapıldığı esnada yağış mevcut oluğu için aracın arka kısmında seyreden çalışanlar zeminin kaygan olmasından kaynaklı şoförün yanına geçiştiği gözlemlenmiştir. Atık kutularında 4 noktada çöp konteynırlarında atık taşması mevcut değildir. Fakat 6 noktada atıkların taştığı ve çalışanların çöpün taştığı kısımları süpürerek çöp kamyonuna attığı gözlemlenmiştir.
3. Araç Güvenliği	Çöp kovası çöp arabasının arka kısmına yerleştirilirken mandalların çalışanlar tarafından açılmasından dolayı ezilme, kırık, uzuv kaybı vb. durumların meydana gelme olasılığı gözlemlenmiştir., Çöp arabası günlük kontrollerinin yapılmadığı gözlemlenmiştir. Araç koruyucularının günlük kontrollerinin yapılmadığı gözlemlenmiştir. Mahalle arasında çalışma yapılmaktadır. Dar sokaklarda araç dönmesi geri geri giderek çıktığı gözlemlenmiştir.
4. Endüstriyel Hijyen	Çöp kamyonuna çöp dökülmesi esnasında gürültü düzeyi ilgili yönetmeliğin belirttiği maruziyet düzeyi geçtiği tespit edilmiştir. Çöp alım ve boşaltım işlemi yapılırken çıkan ses düzeyinin 85 dB üzerinde olabildiği gözlemlenmiştir. Gündüz vardiyası çöp konteynırlarının açık alanda olmasından kaynaklı aydınlatmanın yeterli durumda olduğu gözlemlenmiştir. Çöp alınması ve çöp arabasına aktarılması esnasında ana yol güzergahı üzerine çöp suları döküldüğü ve çalışma esnasında yaygın bir çöp suyu kokusu olduğu ve çalışanların maske takmadığı gözlemlenmiştir. Yağışlı hava da gözlem yapılmış olup çalışanların araç içerisinde görüş açısının engellendiği gözlemlenmiştir. Hava kalitesi çöp toplama esnasında toz bulutu oluşturduğu ve çalışanların herhangi bir önlem almadığı gözlemlenmiştir.
5. Ergonomi	Araç arkasında bulunan çalışmaların zıplayarak araca binmeleri ve zıplayarak araçtan inmelerinden dolayı düşme riskinin olduğu gözlemlenmiştir. Çalışma esnasında itme çekme kaldırma gibi fiziksel güç gerektiren durumların olduğu gözlemlenmiştir. Çöp konteynırlarının alınması esnasında tekrar eden durumların oluşması kas eklem ağrılarına neden olabileceği gözlemlenmiştir. Çöp toplama işinde 3 çalışan mevcuttur. Çöp arabasının şoförü dışında kimse oturarak çalışmadığı gözlemlenmiştir.
6. Zemin ve Geçiş Yolları	Gözlem esnasında yağış mevcut olup yol güzergahlarının yokuş ve kaygan olduğu gözlemlenmiştir. Çalışan itme-çekme esnasında ayaklarının kayarak düşme riski olduğu gözlemlenmiştir.
7. İlkyardım ve Yangın Güvenliği	İlk çalışma yerinde sadece yara bandı ve gazlı bez olduğu, diğer çalışma alanlarında ilkyardım çantasının bulunmadığı gözlemlenmiştir. Araç içerisinde ve dışında yangın söndürme cihazlarının bulunmadığı tespit edilmiştir. Acil durum anında Çöp arabasının arka kısmında ve şoförün bulunduğu alanlarda acil durdurma butonları bulunduğu gözlemlenmiştir. Çöp arabası içerisinde ve dışında herhangi bir acil durum levhaları olmadığı gözlemlenmiştir. Çöp arabasının sesli ikaz ışıklarının olduğu gözlemlenmiştir

Tablo 6. Atık Toplama Elmeri Gözlem Formu Gece Vardiyası

Konular	Doğru	Toplam	Yanlış	Toplam	Açıklama
1.Güvenlik davranışı 1.1. KKD Kullanımı ve Risk Alma	///////////	12	/////////	7	Gece çalışmasında 4 çalışan olduğu gözlemlenmiştir. 4 eldiven,3 iş ayakkabısı,4 iş kıyafeti, 1 kişi iş gözlüğü takıldığı gözlemlenmiştir.
2. Düzen ve temizlik 2.1. Çalışma alanları, çevre ve yüzeyleri	/////	5	///	3	Ana yol güzergahı üzerinde 5 noktada çukur ve pürüz olmadığı gözlemlenmiştir.
2.2. Atık Kutusu	/////	5	///	3	Atık kutusu ile ilgili 5 noktada dolup taşmadığı ve ağır olmadığı gözlemlenmiştir.
2.3. Zemin ve Platform Basamak	////	4	//	1	Zemin ve platformlar üzerinde 4 noktada çalışmayı engelleyecek durumlar ile karşılaşılmadığı gözlemlenmiştir.
3. Araç güvenliği 3.1. Atık Toplama ve araç koruyucuları	/////////	9			Araç koruyucuları 9 noktada çalışırken kırılma çarpma vb. durumlar ile karşılaşılmadığı gözlemlenmiştir.
3.2. Araç Kontrol Listesi	//////	6	////	4	3 araç için ayda 2 defa yapıldığı gözlemlenmiştir.
4. Endüstriyel hijyen 4.1. Gürültü			//////	6	Gürültü seviyesi gece çalışmasında yüksek düzeyde oluğu için doğru gözlem yapılamamıştır.
4.2. Aydınlatma	////	4	//////	6	Aydınlatma gece vardiyasında 4 çalışma alanı için uygun yeterli düzeyde olduğu gözlemlenmiştir.
4.3. Hava Kalitesi	//	2	////	4	Hava koşulları 2 çalışan ağır koku meydana geldiği için maske takarak müdahale ettiği gözlemlenmiştir.
4.4. Sıcaklık Koşulları	//	2			Çalışma alanı sıcaklık koşulları 2 nokta için normal seviyede olduğu gözlemlenmiştir.
5. Ergonomi 5.1. Kas İskelet Sistemi Rahatsızlıkları	/	1	/////	5	Fiziksel güç kullanılması esnasında 1 çalışan doğru hareket ettiği gözlemlenmiştir.

Tablo 6. (Devamı)

5.2. Çalışma Alanı ve duruşu	//	2	////	4	Çalışma alanı 2 kişinin koordineli çalışması ile yürütüldüğü gözlenmektedir. 1 çalışanın gözlem yaptığı izlenmiştir.
6. Zemin ve geçiş yolları 6.1. Zemin ve Geçiş Yolları Yapısı	//	2			Zemin ve geçiş yollarının düzenli, hasarlı ve kaygan olmadığı 2 nokta için doğru olduğu gözlemlenmiştir.
7. İlkyardım ve yangın güvenliği 7.1. ilkyardım	/	1	/////	5	İlk yardım çantasının 1 noktada bulunduğu gözlemlenmiştir.
7.2. Yangın Söndürücü		0			Yangın söndürücü çalışma alanı içerisinde olmadığı için gözlem yapılamamıştır.
7.3. Acil Durum Bildirimi	//	2			2 adet Acil durum butonunun mevcut ve çalışır durumda olduğu gözlemlenmiştir.
	Toplam	**57**	**Toplam**	**43**	
	Elmeri Endeksi		**% 57**		

Tablo 7. Atık Toplama Elmeri Yöntemi Gece Vardiyasında Karşılaşılan Olumlu Açıklamaları

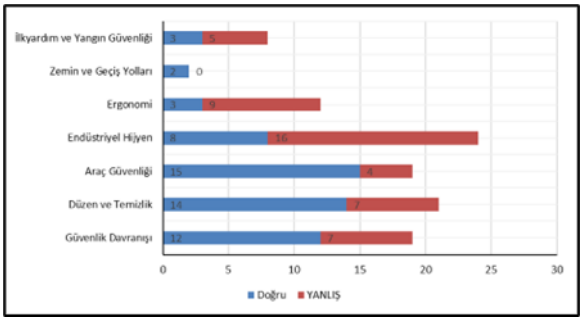
Konular	Açıklama
1.Güvenlik Davranışı	Gece vardiyası çöp toplama esnasında çalışanın eldiven, iş ayakkabısı, iş kıyafeti ve bir çalışanın iş gözlüğü taktığı gözlemlenmiştir.
2. Düzen ve Temizlik	Çalışma esnasında çalışma alanı basamaklarda engel ve çalışana engel olabilecek malzemelerin düzenli olarak temizlendiği gözlemlenmiştir. Atık kutuların da taşma olmadığı çok fazla dolu olmadığı gözlemlenmiştir. Çalışma yapılan alanda çöp konteynırlarına çöp ayıkları ve suları dökülürken yol üzerine sızan suların çevre bantları ile toplanması veya temiz su ile yıka işlemi yapıldığı gözlemlenmiştir. Atık kutularının demirden yapılmış olması ve herhangi bir hasar kırık durumda olmadığı gözlemlenmiştir.
3. Araç Güvenliği	Çalışanların elleri kollarında ezilme kırık ya da kopma meydana gelmemesi için 3 kişi (1'i gözlemci 2 si konteynır taşıyan) çalışma yaptığı gözlemlenmiştir. Gece vardiyası çalışanları aylık vardiyalarının değiştiği ve araç kontrol listeleri ayda 1 düzenlenerek yetkili amirlerine teslim edildiği gözlemlenmiştir.
4. Endüstriyel Hijyen	Gece çalışmasında çöp toplama yapılmadığı esnada gürültü seviyesi 85 dB altında olduğu gözlemlenmiştir. Gece çalışmasında yapay aydınlatma kullanıldığı ve belirli noktalarda yeterli seviyede olduğu gözlemlenmiştir.
5. Ergonomi	Çöp ve çöp sularını araç içerisine boşaltırken fiziksel kuvvet kullanılmadığı gözlemlenmiştir.
6. Zemin ve Geçiş Yolları	Gözlem yapılan bazı alanlarda çukur ve kayganlık olmadığı çalışana engel olabilecek geçiş güzergahlarının bulunmadığı gözlemlenmiştir.
7. İlkyardım ve Yangın Güvenliği	Acil Durdurma butonlarının mevcut olduğu ve çalışır durumda olduğu gözlemlenmiştir. Acil durum planlarının yapıldığı gözlemlenmiştir. Acil durum ekiplerinin belirlendiği gözlemlenmiştir. Yıllık tatbikatlarının yapıldığı gözlemlenmiştir. İlkyardımcı eğitimi alan personel mevcut olduğu gözlemlenmiştir.

Tablo 8. Atık Toplama Elmeri Yöntemi Gece Vardiyasında Karşılaşılan Olumsuzlukların Açıklamaları

Konular	Açıklama
1.Güvenlik Davranışı	Gece vardiyasında çalışmasında 2 çalışan iş ayakkabısı giymediği, Kulak koruyucusu kullanmadığı ve iş gözlüğü takmadığı gözlemlenmiştir. Çalışma esnasında maske takılmadığı gözlemlenmiştir.
2. Düzen ve Temizlik	Arka basamağın bir tanesinin korkuluğunun hasarlı olduğu gözlemlenmiştir. Çalışma esnasında çalışanların aracın arkasına araç hareket ederken bindikleri gözlemlenmiştir. Atık kutularında taşma olduğu çalışanların çöp konteynırı dışınca çöp dökülen alanı süpürdüğü gözlemlenmiştir.
3. Araç Güvenliği	Gece vardiyasında çalışanların koşarak hareket eden araca bindikleri ve inerken zıplayarak indikleri gözlemlenmiştir. Çalışmaya başlamadan önce çöp arabası günlük kontrollerinin yapılmadığı gözlemlenmiştir. Araç koruyucularının günlük kontrollerinin yapılmadığı gözlemlenmiştir. Dar sokaklardan çıkabilmek için geri geri gidildiği çalışanların aracın arka kısmında olduğu herhangi bir çukura düşme ya da çarpma durumunda ezilme risklerinin olduğu gözlemlenmiştir.
4. Endüstriyel Hijyen	Gece vardiyasında da gündüz vardiyasındaki gibi çöp kamyonuna çöp dökülmesi esnasında gürültü düzeyi ilgili yönetmeliğin belirttiği maruziyet düzeyi geçtiği tespit edilmiştir. Çöp alım ve boşaltım işlemi yapılırken çıkan ses düzeyinin 85 dB üzerinde olabildiği gözlemlenmiştir. Gece vardiyası bazı çalışma alanlarında yapay aydınlatmanın yetersiz kaldığı gözlemlenmiştir. Çöp atıklarının ve çöp sularının yere döküldüğü gözlenmiştir. Hava kalitesi çöp toplama esnasında kuru olan çöp konteynırlarında toz bulutu oluşturduğu ve çalışanların herhangi bir önlem almadığı gözlemlenmiştir.

Tablo 8. (Devamı)

5. Ergonomi	Araç arkasında bulunan çalışanların zıplayarak araca binmeleri ve zıplayarak araçtan inmelerinden dolayı düşme riskinin olduğu gözlemlenmiştir. Fiziksel güç gerektiren ve donucunda çalışan üzerinde kas eklem ağrıları bel fıtığı oluşabilecek durumların olduğu gözlemlenmiştir.
6. Zemin ve Geçiş Yolları	Çalışma yapılan bazı yolların çamurlu ve kaygan olduğu gözlemlenmiştir. Çıkmaz sokaklara girilen dar alanlarda çöp arabasının geri geri çıkmaya çalışması esnasında aracın geçişini engelleyen aracın bulunduğu gözlemlenmiştir.
7. İlkyardım ve Yangın Güvenliği	İlk yardım çantasının mevcut olduğu, fakat içerisinde müdahale malzemelerinin bulunmadığı gözlemlenmiştir. Araç içerisinde ve dışında yangın söndürme cihazlarının bulunmadığı gözlemlenmiştir. Çöp arabası içerisinde ve dışında herhangi bir acil durum levhaları olmadığı gözlemlenmiştir.



Şekil 4. Atık Toplama Elmeri Yöntemi Gece Vardiyası

Atık toplama işleminde gece vardiyasında 100 gözlem yapılmıştır. Gece gözlemleri risk analizleri sonucunda 52 doğru 48 yanlış davranışla karşılaşılmıştır. Karşılaşılan problemlerin daha çok endüstriyel hijyen başlığında olduğu görülürken, zemin ve geçiş yolları başlığın da 2 doğru ile en az doğru davranış gözlemlenmiştir yine aynı başlıkta da en az yanlış belirlenmiştir. Toplama işleminde en önemli parametrelerden biri olan araç güvenliğinde ise doğru davranış 15 yanlış davranış ise 4 olarak gözlemlenmiştir (Şekil 4).

Yapılan risk analizinde Atık toplamada gündüz %57.2'lik, gece ise % 57'lik bir güven indeksi ortaya çıkmıştır. Bu oranlar iş yerinde birçok güvenlik açığı bulunduğunu göstermektedir. Bu oranlar, çalışanların potansiyel tehlikelere maruz kaldığını ve kazaların meydana gelme riskinin yüksek olduğunu belirtir.

Atık Taşıma

Gümüşhane Belediyesi ve Katı atık tesisinde yapılan gündüz ve gece vardiyasında toplama işlemi bittikten sonra taşıma işlemi yapan çalışanlara Elmeri gözlem metodu uygulanmıştır. Gözlem sonucunda çıkan tehlike ve risk açıklama kısmında belirtilerek tablo üzerinde ise doğru ya da yanlış olarak işaretlenmiştir. Atık taşımada yapılan gözlemde Elmeri endeksi gündüz vardiyası 57,6, gece vardiyası 46,3'tür.Toplam Elmeri endeksi ise 48,2 şeklinde hesaplanmıştır.

Gümüşhane katı atık tesisi işletmesine evsel atıklar gelmeden önce taşıma aşaması yetkili kurum tarafından gerçekleşmektedir. Tablo-9 ve Tablo-12'de Atık Taşıma Elmeri Metodu (Gece-Gündüz vardiyası) gösterilmiştir.

Yapılan gözlemler sonucu, gözlenen olumlu ve olumsuz durumların ayrıntılı açıklamaları Tablo 10, 11, 13 ve 14'te verilmiştir.

Tablo 9. Atık Taşıma Elmeri Metodu Gündüz Vardiyası

Konular	Doğru	Toplam	Yanlış	Toplam	Açıklama
1.Güvenlik davranışı 1.1. KKD Kullanımı ve Risk Alma	/	1	//////	8	Taşıma işleminde KKD kullanımı 1 iş eldiveni gözlemlenmiştir.
2. Düzen ve temizlik 2.1. Çalışma alanları, çevre ve yüzeyleri	//////	6			Aktarma istasyonuna taşınması esnasında yol üzerinde 6 noktada kaygan zemin olmadığı ve çalışanı engelleyecek durumların bulunmadığı gözlemlenmiştir.
2.2. Atık Kutusu	///////////////	15			Atık taşındıktan sonra boşaltma esnasındaki atık kutularının 15 dolum ve boşaltım durumu olarak gözlem yapılmıştır.
2.3. Zemin ve Platform Basamak			////	4	Taşıma esnasında zemin ve basamak kısmında işlem yapılmadığından doğru gözlem yapılamamıştır.
3. Araç güvenliği 3.1. Atık Toplama ve araç koruyucuları	/////////	9			Atık taşıma işlemi sırasında son silolara yaklaşım yaptığı esnada araç ve silo için 3 araç için 3 ayrı araç koruyucusu gözlemi yapılmıştır.
3.2. Araç Kontrol Listesi	//////	6	////	4	3 araç için ayda 2 defa yapıldığı gözlemlenmiştir.

Tablo 9. (Devamı)

4. Endüstriyel hijyen 4.1. Gürültü			//////	6	Araç taşınması esnasında 4 doğru işlem çalışanın araç içerisinde seyrettiği gözlemlenmiştir.
4.2. Aydınlatma	////	4	////	4	Aydınlatma taşınma esnasında 4 noktada yeterli düzeyde olduğu gözlemlenmiştir.
4.3. Hava Kalitesi			//////	6	Taşınması esnasında çalışan araç kabininde olduğu için doğru gözlem yapılamamıştır.
4.4. Sıcaklık Koşulları			//	2	Sıcaklık koşulları ile ilgili doğru gözlem yapılamamıştır.
5. Ergonomi 5.1. Kas İskelet Sistemi Rahatsızlıkları			/////	5	Taşınma esnasında kas iskelet sistemi ile ilgili doğru gözlem yapılamamıştır.
5.2. Çalışma Alanı ve duruşu			///////	7	Çalışma alanı ile ilgili doğru gözlem yapılamamıştır.
6. Zemin ve geçiş yolları 6.1. Zemin ve Geçiş Yolları Yapısı	//	2			Ana yol üzerinde taşınması esnasında yollarının düzenli, hasarlı ve kaygan olmadığı 2 nokta için doğru olduğu gözlemlenmiştir.
7. İlkyardım ve yangın güvenliği 7.1. ilkyardım					Gözlem yapılamamıştır.
7.2. Yangın Söndürücü		0			Yangın söndürücü çalışma alanı içerisinde olmadığı için gözlem yapılamamıştır.
7.3. Acil Durum Bildirimi	//	2			2 adet Acil durum butonunun mevcut ve çalışır durumda olduğu gözlemlenmiştir.
	Toplam	**45**	**Toplam**	**46**	
		Elmeri Endeksi		**% 49,4**	

Tablo 10. Atık Toplama Elmeri Yöntemi Gündüz Vardiyasında Karşılaşılan Olumlu Açıklamaları

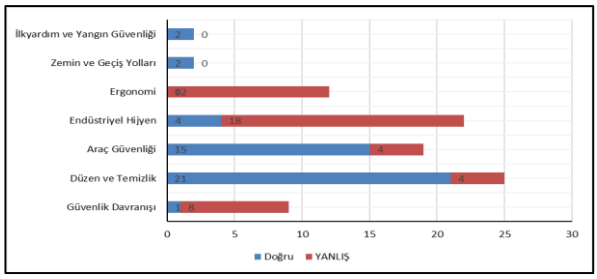
Konular	Açıklama
1.Güvenlik Davranışı	Atık taşıma işlemi yapıldığı esnada çalışanın iş ayakkabısı, iş kıyafeti ve iş eldiveni kullandığı gözlemlenmiştir.
2. Düzen ve Temizlik	Çalışma yapılan platformda herhangi bir engel bulunmadığı gözlemlenmiştir. Çöp arabası içerisinde dolu kısımların kademeli ve dönüşümlü olarak boşaltma işleminin yapıldığı gözlemlenmiştir.
3. Araç Güvenliği	Atık taşıma aracının ve döküm yaptığı esnadaki siloların kırık delik olmadığı gözlemlenmiştir. Çalışmaya başlamadan önce düzenli olarak makine kontrollerinin yapıldığı gözlemlenmiştir.
4. Endüstriyel Hijyen	Gündüz çalışmasında çöp taşıma sırasında gürültü seviyesi aşılmadığı gözlemlenmiştir. Gündüz vardiyasında belirli noktalarda aydınlatmanın yeterli seviyede olduğu gözlemlenmiştir.
5. Ergonomi	Çöp ve çöp sularını araç içerisine boşaltırken fiziksel kuvvet kullanılmadığı gözlemlenmiştir.
6. Zemin ve Geçiş Yolları	İşletme içerisine taşıma işlemi yapılırken engel ve geçiş yollarında herhangi bir kaygan durum olmadığı gözlemlenmiştir.
7. İlkyardım ve Yangın Güvenliği	Acil Durdurma butonlarının araç ve işletme içerisinde mevcut olduğu ve çalışır durumda olduğu gözlemlenmiştir.

Tablo 11. Atık Taşıma Elmeri Yöntemi Gündüz Vardiyasında Karşılaşılan Olumsuzlukların Açıklamaları

Konular	Açıklama
1.Güvenlik Davranışı	KKD kullanımında çalışanın maske iş gözlüğü ve gürültü esnasında kulak koruyucu takmadığı gözlemlenmiştir. Çalışanların taşınması esnasında uygun kişisel koruyucu donanım kullanımı, talimatları ve KKD eğitimlerinin olmadığı gözlemlenmiştir.
2. Düzen ve Temizlik	Taşınması esnasında dökülen atık ve sularının çevreye yayılması, su kaynaklarını, toprakları ve havayı kirletebilir. Bu da ekosistemlere zarar verebilir ve insan sağlığını olumsuz etkileyebilir.
3. Araç Güvenliği	Biyolojik veya diğer atıkların patlayıcı veya yanıcı özellikte olması, taşıma sırasında patlama veya yangın riskini artırır. Bu tür atıkların özel önlemlerle taşınması ve depolanması gerekebilir. Taşıma araçlarının güvenli bir şekilde kullanılması ve trafik kurallarına uyulması gerektiği trafik kazalarını önlemek için sürücülerin dikkatli olması ve yüksek görünürlüklü ekipmanların kullanılması gerektiği gözlemlenmiştir. Düzenli aralıklarla araç bakımlarının yapılması gerektiği gözlemlenmiştir. Atık taşıma araçlarının kaza yapması veya güvenlik kurallarının ihlal edilmesi hem çalışanlar hem de çevredeki insanlar için tehlike oluşturabileceği gözlemlenmiştir.
4. Endüstriyel Hijyen	Çöp taşınması ve boşaltım esnasında oluşan ses düzeyi 85 dB üzerinde olduğu gözlemlenmiştir. Bazı noktalarda aydınlatmanın yetersiz kaldığı gözlemlenmiştir. Biyolojik veya diğer atıkların patlayıcı veya yanıcı özellikte olması, taşıma sırasında patlama veya yangın riskini artırabileceği gözlemlenmiştir. Atıklardan oluşan biyolojik risk, taşıma sırasında maruz kalan insanlar ve çevre için ciddi riskler oluşturabileceği riski gözlemlenmiştir.
5. Ergonomi	Atık taşıma işinde çalışırken fiziksel güç gerektiren işlerin olduğu ve yüklerin kaldırılmasını gerektiği durumlarda bel, omuz ve sırt gibi vücut bölgelerinde yaralanma veya ağrılara neden olabileceği, doğru kaldırma tekniklerinin kullanılmaması durumunda ise çalışanda sakatlık riskinin oluşabileceği gözlemlenmiştir.

Tablo 11. (Devamı)

6. Zemin ve Geçiş Yolları	İşletme içerisine giriş kısmında dar alanların oluğu ve geçiş güzergahında çukur alanların bulunduğu gözlemlenmiştir.
7. İlkyardım ve Yangın Güvenliği	İlk yardım çantasının araç içerisinde ve çalışma sahasında bulunmadığı için gözlem yapılamamıştır. Taşıma yapılan alanda uygun uyarı levhalarının olmadığı gözlemlenmiştir.



Şekil 5. Atık Taşıma Elmeri Metodu Gündüz vardiyası

Gümüşhane katı atık tesisin de gündüz yapılan atık taşıma işleminde 91 gözlem yapılmıştır. Gündüz gözlemleri risk analizleri sonucunda 45 doğru 46 yanlış davranışla karşılaşılmıştır (Tablo 9). Karşılaşılan problemlerin daha çok düzen ve temizlik başlığında olduğu görülmüştür. Zemin ve geçiş yolları, ilk yardım ve yangın güvenliği başlıkların da ikişer doğru ile en az doğru davranış gözlemlenmiştir. Yine aynı başlıklar da en az sayıda yanlışlar belirlenmiştir. Katı atık yönetiminde düzen ve temizlik ana parametrelerdendir. Yapılan gözlemler sonucunda bu başlıkta doğru davranış sayısı 21, yanlış davranış ise 4 adet olarak gözlemlenmiştir (Şekil 5).

Tablo 12. Atık Taşıma Elmeri Metodu Gece Vardiyası

Konular	Doğru	Toplam	Yanlış	Toplam	Açıklama
1.Güvenlik Davranışı *1.1. KKD Kullanımı ve Risk Alma*	//////	6	//	2	Taşıma işleminde KKD kullanımı 2 iş eldiveni,2 iş kıyafeti ve 2 iş ayakkabısı gözlemlenmiştir.
2. Düzen ve Temizlik *2.1. Çalışma alanları, çevre ve yüzeyleri*	//	2	///////	7	Gece çalışmasında taşıma esnasında 2 noktada çukur olduğu gözlemlenmiştir.
2.2. Atık Kutusu	///	3	//	2	3 noktada ağır ve dolu konteynır bulunmadığı gözlemlenmiştir.
2.3. Zemin ve Platform Basamak			////	4	Taşıma esnasında zemin ve basamak kısmında işlem yapılmadığından doğru gözlem yapılamamıştır.
3. Araç Güvenliği *3.1. Atık Toplama ve araç koruyucuları*	/////////	9			Atık taşıma işlemi geçiş güzergahları üzerinde 9 noktada herhangi bir hasar kaza olmadığı 9 noktada gözlemlenmiştir.
3.2. Araç Kontrol Listesi	/	1			Ayda 1 defa yetkili kişilerce alındığı gözlemlenmiştir.
4. Endüstriyel Hijyen *4.1. Gürültü*	///	3	//////	6	Araç taşınması esnasında 4 doğru işlem çalışanın araç içerisinde seyrettiği gözlemlenmiştir.
4.2. Aydınlatma	//	2	//////	6	Aydınlatma taşınma esnasında 2 noktada yeterli düzeyde olduğu gözlemlenmiştir.
4.3. Hava Kalitesi			//////	6	Taşınması esnasında çalışan araç kabininde olduğu için doğru gözlem yapılamamıştır.
4.4. Sıcaklık Koşulları			///	3	Sıcaklık koşulları ile ilgili doğru gözlem yapılamamıştır.
5. Ergonomi 5.1. Kas İskelet Sistemi Rahatsızlıkları	///	3	/////	5	Gece vardiyasında taşınan atıkların boşaltımı esnasında 3 gözlem yapılmıştır.
5.2. Çalışma Alanı ve duruşu	/////	5	///	3	Çalışma alanı ile ilgili 5 silo içerisi ve boşaltım işlemi gözlemlenmiştir.
6. Zemin ve Geçiş Yolları *6.1. Zemin ve Geçiş Yolları Yapısı*	//	2			Zemin ve geçiş güzergahları için 2 noktada gözlem yapılmıştır.
7. İlkyardım ve Yangın Güvenliği *7.1. ilkyardım*					İlk yardım çantası bulunmadığı için gözlem yapılamamıştır.
7.2. Yangın Söndürücü		0			Yangın söndürücü çalışma alanı içerisinde olmadığı için gözlem yapılamamıştır.
7.3. Acil Durum Bildirimi	//	2			Araç içerisinde ve dış kısmında acil durdurma butonları için gözlem yapılmıştır.
	Toplam	**38**	**Toplam**	**44**	
	Elmeri Endeksi		**% 46,3**		

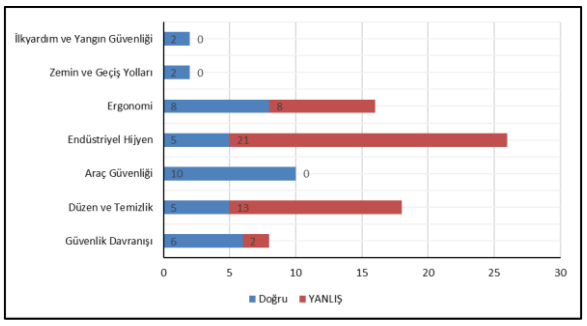
Tablo 13. Atık Taşıma Elmeri Yöntemi Gece Vardiyasında Karşılaşılan Olumlu Açıklamaları

Konular	Açıklama
1.Güvenlik Davranışı	Gece vardiyası çöp taşınması esnasında iş kıyafeti, iş ayakkabısı ve eldiven kullanıldığı gözlemlenmiştir.
2. Düzen ve Temizlik	Atık kutularında taşma olmadığı çok fazla dolu olmadığı gözlemlenmiştir. Atık kutularının demirden yapılmış olması ve herhangi bir hasar kırık durumda olmadığı gözlemlenmiştir.
3. Araç Güvenliği	Gece vardiyası çalışanları aylık vardiyalarının değiştiği ve araç kontrol listeleri ayda 1 düzenlenerek yetkili amirlerine teslim edildiği gözlemlenmiştir.
4. Endüstriyel Hijyen	Gece çalışmasında çöp taşıma işlemi yapılan alanın gürültü seviyesi 85 dB altında olduğu gözlemlenmiştir. Gece çalışmasında yapay aydınlatma kullanıldığı ve belirli noktalarda yeterli seviyede olduğu gözlemlenmiştir.
5. Ergonomi	Çöp ve çöp sularını araç içerisine boşaltırken fiziksel kuvvet kullanılmadığı gözlemlenmiştir.
6. Zemin ve Geçiş Yolları	Gözlem yapılan bazı alanlarda çukur ve kayganlık olmadığı çalışana engel olabilecek geçiş güzergahlarının bulunmadığı gözlemlenmiştir.
7. İlkyardım ve Yangın Güvenliği	Acil Durdurma butonlarının mevcut olduğu ve çalışır durumda olduğu gözlemlenmiştir.

Tablo 14. Atık Taşıma Elmeri Yöntemi Gece Vardiyasında Karşılaşılan Olumsuzlukların Açıklamaları

Konular	Açıklama
1.Güvenlik Davranışı	KKD kullanımında eldiven bazı noktalarda uygulanırken bazı çöp kovalarına temas edilirken takılmadığı gözlemlenmiştir. Gözlük ve maske kullanımının olmadığı gözlemlenmiştir.
2. Düzen ve Temizlik	Boşaltım esnasında oluşabilecek engellerin çalışma saatini uzattığı gözlemlenmiştir. Çöp atıklarının basamaklara düşmesinden kaynaklı çalışanın kayıp düşebileceği gözlemlenmiştir.
3. Araç Güvenliği	Çöp atıkları ve suları taşınması esnasında zeminin kaygan olmasından kaynaklı aracın kaza yapabilme olasılığı gözlemlenmiştir.
4. Endüstriyel Hijyen	Çöp kamyonuna çöp dökülmesi esnasında gürültü düzeyi ilgili yönetmeliğin belirttiği maruziyet düzeyi geçtiği tespit edilmiştir. Çöp alım ve boşaltım işlemi yapılırken çıkan ses düzeyinin 85 dB üzerinde olabildiği gözlemlenmiştir. Düşük aydınlatma koşulları nedeniyle görünürlük sorunları yaşanması, atık taşıma araçlarının veya diğer ekipmanların doğru şekilde görülmesini zorlaştırabildiği gözlemlenmiştir. Hava koşullarından kaynaklı biyolojik risk ile birlikte çalışanın hasta olabileceği gözlemlenmiştir.
5. Ergonomi	Gece vardiyasında çalışma esnasında çalışanın uyku düzenini bozabilir. Bu durum çalışanlarda yorgunluk, dikkat dağınıklığı ve reaksiyon süresinde azalma gibi etkilere yol açabilir. Bu da iş kazaları riskini artırabileceği gözlemlenmiştir. Fiziksel güç gereksinimi durumlarında bedensel olarak çalışıldığı gözlemlenmiştir. Bazı atık boşatma işlemini tek bir çalışan yapılabilmektedir. Bu durumda, acil durumlarda yardım almak zor olabilir ve çalışanlar risk altında kalabileceği gözlemlenmiştir.
6. Zemin ve Geçiş Yolları	Bazı geçiş noktalarının dar ve zeminin kaygan çamurlu ve çukur olduğu kaza riski oluşturabileceği durumunu ortaya çıkardığı gözlemlenmiştir. Çalışma sahası şehir merkezinde uzakta ve ıssız bir alan olduğu için güvenlik önlemlerinin alınması. Yeterli güvenlik önlemleri alınmazsa, hırsızlık, saldırı veya diğer tehlikelerle karşılaşma riski artabileceği gözlemlenmiştir. Katı atık bölgesi ıssız alanda olduğu için gece vardiyasında çalışmak, doğal tehlikelere maruz kalma riskini artırabilir. Örneğin, yırtıcı hayvanlar, yüksek rüzgarlar, şiddetli yağmur veya kar yağışı gibi durumlar çalışanların güvenliğini tehdit edebileceği gözlemlenmiştir.
7. İlkyardım ve Yangın Güvenliği	İlk yardım çantası bulunmadığı için gözlem yapılamamıştır. Yangın tüpü bulunmadığı için gözlem yapılamamıştır.

Gece vardiyasında yapılan risk analizinde atık taşıma işleminde 82 gözlem yapılmıştır. Gece gözlemleri risk analizleri sonucunda 38 doğru 44 yanlış davranışla karşılaşılmıştır (Tablo 6). Yanlış cevapların endüstriyel hijyen başlığında olduğu görülmüştür. Zemin ve geçiş yolları, ilk yardım ve yangın güvenliği, başlıkların da ikişer doğru ile en az doğru davranış saptanmışken, bu başlıklar da ve bunlara ek olarak araç güvenliği başlığında da yanlış davranış saptanamamıştır. Düzen ve temizlik ve hijyen başlıklarında da 34 yanlış tespit edilmiştir. Ayrıca yapılan gece analizlerinde dikkat çekici olarak Araç güvenliği bölümünde herhangi bir olumsuz durum belirlenmemiştir (Şekil 6).



Şekil 6. Atık Taşıma Elmeri Metodu Gece vardiyası

Ayrıştırma

Çalışma sahasında, iş akış şemasındaki son başlık olan katı atık ayrıştırma başlığında gündüz ve gece vardiyalarında risk analizi yapılmıştır. Atık taşımada yapılan gözlemde Elmeri endeksi gündüz vardiyası 29,03, gece vardiyası 41,2'dir. Toplam Elmeri endeksi ise 35,2'dir.

Gümüşhane katı atık tesisi işletmesine evsel atıklar işletmeye geldikten sonra elleçleme yöntemi ile ayrıştırma yetkili kurumun görevlendirdiği lisanslı firma tarafından gerçekleşmektedir. Tablo-15 ve Tablo-18'de Atık Ayrıştırma Elmeri Metodu (Gece-Gündüz vardiyası) gösterilmiştir.

Tablo 15. Atık Ayrıştırma Elmeri Metodu Gündüz Vardiyası

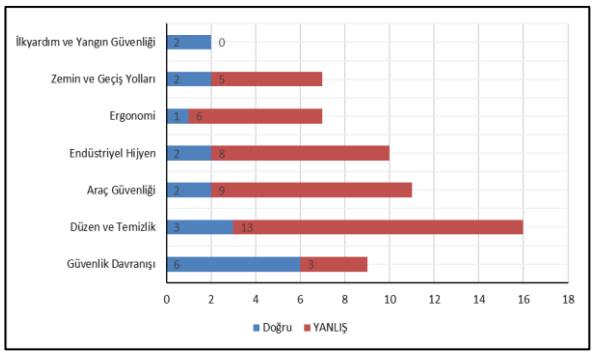
Konular	Doğru	Toplam	Yanlış	Toplam	Açıklama
1.Güvenlik davranışı 1.1. KKD Kullanımı ve Risk Alma	///////	6	///	3	Atık ayrıştırma işleminde 5 iş kıyafeti,1 iş eldiveni kullanıldığı gözlemlenmiştir.
2. Düzen ve temizlik 2.1. Çalışma alanları, çevre ve yüzeyleri			//////	6	Ayrıştırma işlemi için doğru gözlem yapılamamıştır.
2.2. Atık Kutusu			///	3	Ayrıştırma yapılan atık kutularında gözlem yapılamamıştır.
2.3. Zemin ve Platform Basamak	///	3	////	4	Zemin ve basamaklarda 2 zemin ve 1 korkuluk olduğu gözlemlenmiştir.
3. Araç güvenliği 3.1. Atık Toplama ve araç koruyucuları	//	2	/////////	9	Ayrıştırma yapılan alandaki konveyör bantlarının 2 nokta için gözlem yapılmıştır.
3.2. Araç Kontrol Listesi					Araç kontrol listesi için gözlem yapılamamıştır.
4. Endüstriyel hijyen 4.1. Gürültü			//	2	Çalışma alanında doğru gürültü gözlemi yapılamamıştır.
4.2. Aydınlatma	//	2	////	4	Çalışma alanındaki 2 nokta için gözlem yapılmıştır.
4.3. Hava Kalitesi			//	2	Hava kalitesi için doğru gözlem yapılamamıştır.
4.4. Sıcaklık Koşulları					Sıcaklık koşulları ile ilgili gözlem yapılamamıştır.
5. Ergonomi 5.1. Kas İskelet Sistemi Rahatsızlıkları	/	1	///	3	Ayakta 1 noktada işlem yapıldığı gözlemlenmiştir.
5.2. Çalışma Alanı ve duruşu			///	3	Çalışma alanı ile ilgili doğru gözlem yapılamamıştır.
6. Zemin ve geçiş yolları 6.1. Zemin ve Geçiş Yolları Yapısı	//	2	/////	5	Zemin ve geçiş güzergahları için 2 nokta gözlemlenmiştir.
7. İlkyardım ve yangın güvenliği 7.1. ilkyardım		0			İlk yardım çantası bulunmadığı için gözlem yapılamamıştır.
7.2. Yangın Söndürücü		0			Yangın söndürücü çalışma alanı içerisinde olmadığı için gözlem yapılamamıştır.
7.3. Acil Durum Bildirimi	//	2			Ayrıştırma yapılan alan içerisinde acil durdurma butonları için gözlem yapılmıştır.
	Toplam	**18**	**Toplam**	**44**	
	Elmeri Endeksi		**% 29,3**		

Tablo 16. Atık Ayrıştırma Elmeri Yöntemi Gündüz Vardiyasında Karşılaşılan Olumlu Açıklamaları

Konular	Açıklama
1.Güvenlik davranışı	Çalışanların ayrıştırma yapıldığı esnada iş kıyafeti giydiği gözlemlenmiştir.
2. Düzen ve temizlik	Çalışma alanı içerisinde çalışanın geçişini engelleyecek engellerin bulunmadığı gözlemlenmiştir. Çalışma bittikten sonra alanın temiz su ile yıkandığı gözlemlenmiştir.
3. Araç güvenliği	Konveyör bantların düzenli aralıklarla bakımlarının yapıldığı gözlemlenmiştir. Koruyucularının sağlam ve kullanılabilir olduğu gözlemlenmiştir.
4. Endüstriyel hijyen	Aydınlatma seviyesinin bazı noktalarda yeterli seviyede olduğu gözlemlenmiştir.
5. Ergonomi	Fiziksel güç gerektiren durumlarda yardım alınarak (iş makine ve çalışan) işlem yapıldığı gözlemlenmiştir.
6. Zemin ve geçiş yolları	Zemin ve geçiş yollarının temiz ve düzenli olduğu gözlemlenmiştir.
7. İlkyardım ve yangın güvenliği	Acil durum butonlarının mevcut ve çalışabilir durumda olduğu gözlemlenmiştir.

Tablo 17. Atık Ayrıştırma Elmeri Yöntemi Gündüz Vardiyasında Karşılaşılan Olumsuzlukların Açıklamaları

Konular	Açıklama
1.Güvenlik Davranışı	Çalışanların KKD'leri düzenli kullanmadığı gözlemlenmiştir. Çalışma yaparken eksik KKD kullandıkları gözlemlenmiştir.
2. Düzen ve Temizlik	Çalışma alanının sıklıkla dolu olduğu gözlemlenmiştir. Çalışma alanı içerisinde yaygın kokunun olması çalışanın sağlığını etkileyebileceği gözlemlenmiştir. Zemin ve platformlarda çöp atıklarının oluştuğu kayma ve düşme riskinin oluşabileceği gözlemlenmiştir.
3. Araç Güvenliği	Atık konveyör bantlarının çalışması esnasında el sıkışması, yaralanması oluşabilmektedir. Çalışma alanı kontrolleri yapılmadığı gözlemlenmiştir.
4. Endüstriyel Hijyen	Atıklar arasında cam, metal ve plastik gibi kesici veya delici maddeler bulunabilir. Bu maddelerin elleçlenmesi sırasında yaralanma riski olduğu gözlemlenmiştir. Organik atıkların ayrıştırılması sırasında mikroorganizmaların ve patojenlerin bulunma olasılığı vardır. Bu durum, hastalık bulaşma riskini artırabileceği durumlar gözlemlenmiştir. Atık ayrıştırma sürecinde atıkların yanlış şekilde işlenmesi veya karıştırılması sonucu kontaminasyon oluşabilir. Bu, geri dönüşüm sürecini etkileyebilir veya tehlikeli atık yönetimi gerektirebileceği gözlemlenmiştir.
5. Ergonomi	Evsel atık elleçleme işinde çalışan personellerin kas eklem ağrıları, mide ağrısı ve enfeksiyon hastalıkları vb. birçok hastalığa maruz kalabilecekleri gözlemlenmiştir.
6. Zemin ve Geçiş Yolları	Çalışma alanı yüksekte yapılmaktadır. Yüksekten düşmeler, kesilmeler, ezilmeler gibi riskler, atık taşıma işlemlerinde dikkat edilmesi gereken durumlardır. Zemin ve geçişlerin de merdiven üzerinde çöp atıklarının olduğu ve kaygan zemin bulunduğu gözlemlenmiştir.
7. İlkyardım ve Yangın Güvenliği	İlkyardım çantasının bulunmadığı gözlemlenmiştir. Yangın söndürücü çalışma alanı içerisinde olmadığından gözlem yapılamamıştır. İlkyardımcı eğitimi almış personellerin bulunmadığı gözlemlenmiştir. Acil durum butonlarının önüne malzeme bırakıldığı ve üzerine asıldığı gözlemlenmiştir.



Şekil 7. Atık Ayrıştırma Elmeri Metodu Gündüz vardiyası

Gümüşhane katı atık tesisin de son basamak olan ayrıştırma işlemi gündüz vardiyasında 62 gözlem yapılmıştır. Gündüz gözlemleri risk analizleri sonucunda 18 doğru 46 yanlışla karşılaşılmıştır (Tablo 12). Karşılaşılan yanlışların daha çok düzen ve temizlik başlığında olduğu görülmüştür. Zemin ve geçiş yolları ve ilk yardım ve yangın güvenliği başlıkların da 2 doğru ile en az doğru davranış gözlemlenmiştir yine aynı başlıkta da en az yanlış belirlenmiştir. (Şekil 7).

Katı atık tesisinde son aşama olan ayrıştırma işlemi sırasında yapılan gözlemlerde en fazla dikkat çeken yanlışların neredeyse her basamakta yüksek olmasıdır bunların giderilmesi ve azaltılması elzemdir.

Tablo 18. Atık Ayrıştırma Elmeri Metodu Gece vardiyası

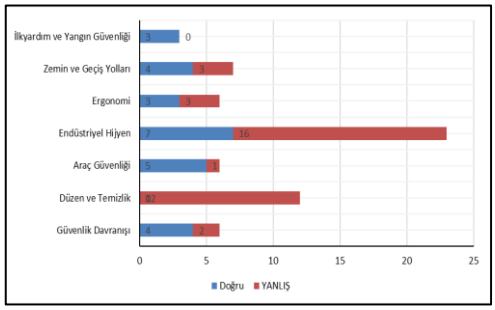
Konular	Doğru	Toplam	Yanlış	Toplam	Açıklama
1.Güvenlik Davranışı 1.1. KKD Kullanımı ve Risk Alma	////	4	//	2	Atık ayrıştırma işleminde 1 maske, 2 iş kıyafeti ve 1 eldiven kullanıldığı gözlemlenmiştir.
2. Düzen ve Temizlik 2.1. Çalışma alanları, çevre ve yüzeyleri			//////	6	Ayrıştırma işlemi için doğru gözlem yapılamamıştır.
2.2. Atık Kutusu			////	4	Ayrıştırma yapılan atık kutularında doğru gözlem yapılamamıştır.
2.3. Zemin ve Platform Basamak			//	2	Zemin ve basamaklarda doğru gözlem yapılamamıştır.
3. Araç Güvenliği 3.1. Atık Toplama ve araç koruyucuları	/////	5	/	1	Ayrıştırma yapılan alandaki konveyör bantlarının 1 nokta için 5 doğru gözlem yapılmıştır.
3.2. Araç Kontrol Listesi					Araç kontrol listesi için gözlem yapılamamıştır.
4. Endüstriyel Hijyen 4.1. Gürültü	////	4	////	4	Çalışma alanı içerisinde Gürültü seviyesi 85 dB altında olduğu gözlemlenmiştir.
4.2. Aydınlatma	//	2	//////	6	Aydınlatma seviyesi ayrıştırma yapılan alan için 2 noktada yeterli seviyede olduğu gözlemlenmiştir.
4.3. Hava Kalitesi	/	1	//	2	Hava kalitesi için 1 çalışan maske taktığı gözlemlenmiştir.
4.4. Sıcaklık Koşulları			////	4	Sıcaklık koşulları ile ilgili gözlem yapılamamıştır.
5. Ergonomi 5.1. Kas İskelet Sistemi Rahatsızlıkları	///	3	/	1	Ayakta 3 noktada işlem yapıldığı gözlemlenmiştir.
5.2. Çalışma Alanı ve duruşu			//	2	Çalışma alanı ile ilgili doğru gözlem yapılamamıştır.
6. Zemin ve Geçiş Yolları 6.1. Zemin ve Geçiş Yolları Yapısı	////	4	///	3	Zemin ve geçiş güzergahları için 2 nokta gözlemlenmiştir.
7. İlkyardım ve Yangın Güvenliği 7.1. ilkyardım		0			İlk yardım çantası bulunmadığı için gözlem yapılamamıştır.
7.2. Yangın Söndürücü		0			Yangın söndürücü çalışma alanı içerisinde olmadığı için gözlem yapılamamıştır.
7.3. Acil Durum Bildirimi	///	3			Ayrıştırma yapılan alan içerisinde acil durdurma butonları için gözlem yapılmıştır.
	Toplam	**26**	**Toplam**	**37**	
	Elmeri Endeksi		**% 41,2**		

Tablo 19. Atık Ayrıştırma Elmeri Yöntemi Gündüz Vardiyasında Karşılaşılan Olumlu Açıklamaları

Konular	Açıklama
1.Güvenlik davranışı	Çalışanların kişisel koruyucu donanım (KKD) kullandığı gözlemlenmiştir.
2. Düzen ve temizlik	Çalışma alanı içerisinde yoğun bir çalışma olmadığı atıkların düzenli depolandığı gözlemlenmiştir. Zemin ve atık taşma durumunun olmadığı gözlemlenmiştir.
3. Araç güvenliği	Konveyör bantların koruyucularının olduğu ve çalıma alanı içerisinde güvenli korkulukların bulunduğu gözlemlenmiştir.
4. Endüstriyel hijyen	Gürültü seviyesinin 85 dB altında olduğu gözlemlenmiştir. Aydınlatma seviyesinin bazı noktalarda yeterli seviyede olduğu gözlemlenmiştir. Oluşan çöp sularının temiz su ile yıkanarak atık su depolarına gönderildiği gözlemlenmiştir.
5. Ergonomi	Düzenli aralıklarla mola verilerek çalışma yapıldığı çalışanın eklem ağrıları bel fıtığı vb. rahatsızlıkları aza indirebileceği gözlemlenmiştir.
6. Zemin ve geçiş yolları	Zemin ve geçiş yollarının uygun genişlikte olduğu kaygan çukur delik ve hasarlı olmadığı gözlemlenmiştir.
7. İlkyardım ve yangın güvenliği	Acil durum butonlarının mevcut ve çalışabilir durumda olduğu gözlemlenmiştir.

Tablo 20. Atık Ayrıştırma Elmeri Yöntemi Gündüz Vardiyasında Karşılaşılan Olumsuzlukların Açıklamaları

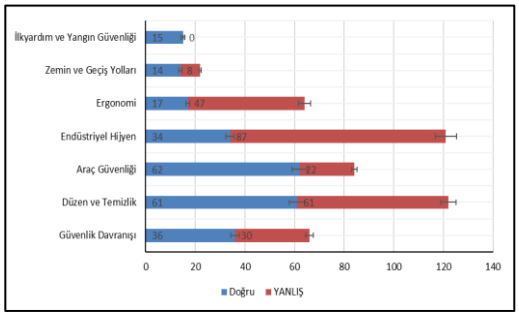
Konular	Açıklama
1.Güvenlik Davranışı	Çalışanların kulak koruyucu ve iş eldiveni kullanmadığı gözlemlenmiştir. Çalışanın çöp atıklarına birebir temas ettiği gözlemlenmiştir.
2. Düzen ve Temizlik	Çöp ayrıştırma aşamasında yoğun gelen çöp dolayısıyla atıkların çalışma alanına döküldüğü gözlemlenmiştir.
3. Araç Güvenliği	Konveyör bantların günlük kontrollerinin yapılmadığı gözlemlenmiştir. İş makinelerinin günlük ve aylık kontrollerinin yapılmadığı gözlemlenmiştir.
4. Endüstriyel Hijyen	Çalışma esnasında gürültü seviyesinin 85 dB in üzerinde olduğu gözlemlenmiştir. Aydınlatma seviyesinin gece görüşünü bazı noktalarda engellediğini gözlemlemiştir. Sıcaklık koşullarının gece çalışmasında düştüğü ve çalışanların üşüdüğü gözlemlenmiştir.
5. Ergonomi	Gece çalışmasında çalışanın yorgun ve uykusuz olduğu işini yaparken dikkatsiz davrandığı gözlemlenmiştir.
6. Zemin ve Geçiş Yolları	Zemin ve geçiş yollarının yetersiz aydınlatılmasından kaynaklı çalışanın görüş açısının kısıtlandığı gözlemlenmiştir. Çalışma alanı içerisinde zamanla oluşan çukur ve kaygan zeminler tehlike oluşturduğu gözlemlenmiştir.
7. İlkyardım ve Yangın Güvenliği	İlkyardım çantası bulunmadığı için gözlem yapılamamıştır. Yangın söndürücülerin bulunmadığı gözlemlenmiştir. Acil durum butonlarının önüne malzeme bırakıldığı gözlemlenmiştir. İlkyardımcı eğitimi alan çalışanın bulunmadığı gözlemlenmiştir.



Şekil 8. Atık Ayrıştırma Elmeri Metodu Gece Vardiyası

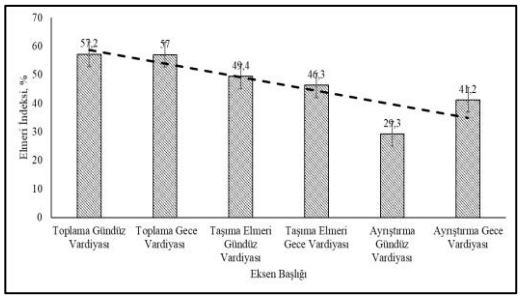
Gece vardiyasında yapılan risk analizinde atık ayrıştırma işleminde 63 gözlem yapılmıştır. Gece gözlemleri risk analizleri sonucunda 26 doğru 38 yanlış davranışla karşılaşılmıştır (Tablo 18). Yanlış cevapların en çok endüstriyel hijyen başlığında olduğu görülmüştür. İlk yardım ve yangın güvenliği başlığında 2 doğru ile en az doğru davranış gözlemlenmiştir. Katı atık yönetiminde düzen, temizlik ve hijyen ana parametrelerdendir. Yapılan gözlemler sonucunda bu başlıklarda 18 yanlış tespit edilmiştir, buna ek olarak düzen ve temizlik açısından doğru gözlemlenememiştir. (Şekil 8).

Gümüşhane katı atık tesisinde Toplama, Taşıma ve Ayrıştırma süreçlerinde gece ve gündüz ayrı ayrı yapılan gözleme dayalı risk analiz sonucunda en fazla yanlışın hijyen başlığında olduğu, en az yanlışın ise ilk yardım ve güvenlik aşamasında olduğu görülmüştür. Toplamda en fazla doğru ise araç güvenliği başlığında bulunmuştur (Şekil 9).



Şekil 9. Katı atık toplam Elmeri Metodu

Yapılan Elmeri analizinde Elmeri indeksi genel olarak gece vardiyalarında düşük, gündüz vardiyalarında yüksek görülmüştür. Ayrıştırma basamağında bu olay tam tersine dönüşmüştür. Bu basamakta Elmeri indeksi gece vardiyasında 41,2 iken gündüz vardiyasında 29,3 olarak hesaplanmıştır. Bu çalışmada katı atık tesisinde en riskli aşamanın ayrıştırma en az riskli aşamanın ise toplama olduğu ortaya konmuştur (Şekil 10).



Şekil 10. Atık Tesisisinin Toplam Elmeri İndeks Karşılaştırması

SONUÇ VE ÖNERİLER

Bu çalışma, Gümüşhane ilindeki katı atık tesisinin iş sağlığı ve güvenliğini değerlendirmek için Elmeri yöntemini kullanarak yapılan risk analizlerine dayanmaktadır. Toplama, Taşıma ve Ayrıştırma süreçlerinde gerçekleştirilen gözlemler ve analizler, çeşitli güvenlik tehlikelerinin mevcudiyetini ve bu süreçlerdeki doğru/yanlış güvenlik davranışlarını ortaya koymuştur.

Elde edilen bulgulara dayanarak, aşağıdaki sonuçlar ve öneriler öne çıkmaktadır:

- Risk Analizi Sonuçları: Gündüz ve gece vardiyalarında yapılan risk analizleri, her bir süreç için Elmeri endekslerini belirlemiştir. Atık toplama gündüz vardiyası %57.2, atık toplama gece vardiyası %57, atık taşıma gündüz vardiyası %49.4, atık taşıma gece vardiyası %46.3, atık ayrıştırma gündüz vardiyası %29.3, atık ayrıştırma gece vardiyası %41.2 olarak hesaplanmıştır. Elmeri indeksi, iş yerlerinin güvenlik performansını sürekli izlemek ve iyileştirme alanlarını belirlemek için kullanılabilir. Düşük bir indeks, iş yerinde önemli güvenlik açıklarının olduğunu ve bu alanlarda iyileştirme yapılması gerektiğini gösterir. Yüksek bir indeks ise, iş yerinde iyi bir güvenlik yönetiminin uygulandığını ve risklerin etkin bir şekilde kontrol edildiğini gösterir. Katı atık tesisinde en yüksek riskli alan atık ayrıştırma gündüz vardiyası olmuştur.

En yüksek endeksler ise genellikle gece vardiyalarında tespit edilmiştir, özellikle de toplama sürecinde.

- Tehlike Odaklı Alanlar: Atık Toplama sürecinde, en fazla yanlış davranışlar düzen ve temizlik ile ilgili olarak gözlemlenmiştir. Taşıma sürecinde ise araç güvenliği önemli bir odak noktası olmuştur. Ayrıca, Ayrıştırma sürecindeki yanlış davranışlar genellikle endüstriyel hijyenle ilişkilendirilmiştir.
- Öneriler: İş sağlığı ve güvenliği açısından, düzen ve temizlik standartlarının artırılması, özellikle atık toplama ve ayrıştırma süreçlerinde önemlidir. Araç güvenliği konusunda eğitim ve farkındalık artırıcı önlemler alınmalıdır. Ayrıca, endüstriyel hijyen ve güvenlik eğitimlerinin vurgulanması ve bu konuda çalışanların bilinçlendirilmesi gerekmektedir.
- Gece Vardiyalarına Odaklanma: Elde edilen veriler, gece vardiyalarında genellikle daha düşük güvenlik endekslerine işaret etmektedir. Bu nedenle, özellikle gece çalışan personel için ek güvenlik önlemleri ve denetimler sağlanmalıdır.
- Sürekli İyileştirme Süreci: Bu çalışma, sürekli iyileştirme sürecinin bir parçası olarak görülmelidir. Belirlenen risklerin izlenmesi, yeni güvenlik önlemlerinin uygulanması ve mevcut prosedürlerin gözden geçirilmesi önemlidir.

Sonuç olarak, bu yöntem, iş yerlerinde güvenlik kültürünün geliştirilmesi ve iş sağlığı ve güvenliği performansının sürekli olarak iyileştirilmesi için etkili bir araçtır. Gümüşhane'deki katı atık tesisinde iş sağlığı ve güvenliği açısından belirlenen alanları vurgulamakta ve iyileştirme için somut öneriler sunmaktadır. Bu önerilerin uygulanması, çalışanların ve çevrenin güvenliğini artıracak ve atık yönetim süreçlerinin daha etkin bir şekilde yürütülmesine katkı sağlayacaktır.

KAYNAKLAR

1. Külekçi, G. ve Güvendi, A. (2023). "Waste Management and Recycling Programs Empowering Environmental Sustainability: The Case of Gümüşhane". Atlas Journal, 9 (52).
2. Vural, A., Gundogdu, A., Akpinar, I., ve Baltaci, C. (2017). "Environmental impact of Gümüşhane City, Turkey, waste area in terms of heavy metal pollution". Natural Hazards, 88, 867-890.
3. Külekçi, G. (2018). Karadeniz Bölgesindeki İnşaat Yıkıntı Atıklarının Agrega Yerine Kullanılabilirliğinin ve Madencilikte Kullanım Alanlarının Araştırılması. Doktora Tezi, Karadeniz Teknik Üniversitesi Fen Bilimleri Enstitüsü, Trabzon.
4. Külekçi, G. ve Çullu, M. (2021). "The investigation of mechanical properties of polypropylene fiber-reinforced composites produced with the use of alternative wastes". Politeknik Dergisi, 24 (3).
5. Külekçi, G., Erçikdi, B. ve Aliyazicioğlu, Ş. (2016). "Effect of waste brick as mineral admixture on the mechanical performance of cemented paste backfill". IOP Conference Series: Earth and Environmental Science, 44 (4).
6. Külekçi, G. (2021). "Comparison of Field and Laboratory Result of Fiber Reinforced Shotcrete Application". Periodica Polytechnica Civil Engineering, 65 (2).

7. Külekçi, G. (2022). "Madencilik İşlemlerinde Toz Oluşumu ve İnsan Sağlığına Etkisi Üzerine Örnek Çalışma; Bir Taş Ocağı Toz Emisyonu Miktarı Hesaplanması Örneği". Göbeklitepe Sağlık Bilimleri Dergisi, 5 (8).

8. Külekçi, G., Çullu, M. ve Yılmaz, A. O. (2018). "Environmental Problems to Be Created in Mining Procedures and Measures to Be Taken Example of A Quarry Dust Emission". 4th EurAsia Waste Management Symposium.

9. Külekçi, G. ve Meral, T. (2023). "Meyve Suyu Fabrikalarında İş Akışlarının İş Sağlığı, İşçi Güvenliği ve Ergonomi Açısından İncelenmesi". Euroasia Journal of Mathematics, Engineering, Natural & Medical Sciences, 10 (31).

10. Külekçi, G. (2023). "İş Sağlığı ve Güvenliğinin Evrimi: Dünya Ülkelerinde Tarihsel Süreç ve Madencilikte Uygulama Yöntemleri". Icontech International Journal, 7 (4).

11. Külekçi, G. (2023). "Dünya da ve Türkiye deki Maden Kazalarının İş Sağlığı ve Güvenliği Açısından İncelenmesi". Ejons International Journal, 7 (4), 623-633.

12. Solak, S. G. ve Pekküçükşen, S. (2018). "Türkiye'de kentsel katı atık yönetimi: karşılaştırmalı bir analiz". MANAS Sosyal Araştırmalar Dergisi, 7 (3).

13. Altıner, F. (2024). "Balıkesir Katı Atık Düzenli Depolama Tesisi'nin İrdelenmesi". Kent Akademisi Dergisi, 17 (1), 72-87.

14. Külekçi, G. ve Güvendi, A. (2023). "Gümüşhane İlindeki Kati Atik Yönetimi ve Kati Atik Dönüşüm Tesisi". In II. International Korkut Ata Scientific Researches Conference (Vol. 642, No. 647, pp. 7-8). Ankara.

15. Abdulaı, A. (2019). Katı Atık Yönetimi: Evsel Atıklarda Gana Batı Gonja Bölgesi Analizi. Yüksek Lisans Tezi, Gazi Üniversitesi Sosyal Bilimler Enstitüsü, Ankara.

16. Mattioli, A., Gatti, G. B., Mattuzzi, G. P., Cecchi, F., ve Bolzonella, D. (2017). "Co-digestion of the organic fraction of municipal solid waste and sludge improves the energy balance of wastewater treatment plants: Rovereto case study". Renewable Energy, 113, 980-988.

17. Acar, M. N. ve Acar, H. H. (2022). "Belediye katı atık yönetimi uygulamalarının iş sağlığı ve güvenliği açısından incelenmesi". Journal of Medical Sciences, 3 (1), 34-48.

18. Baki, M. S., Şenel, M. ve Şenel, B. (2020). "Katı Atık Düzenli Depolamalı Tesislerinde Hata Türü Etkileri Analizi Yöntemiyle İş Sağlığı ve Güvenliği Açısından Risk Analizi-Bingöl Örneği". International Journal of Innovative Engineering Applications, 4 (2), 82-90.

19. Yaylalı, Ç. (2016). "İş Sağlığı ve Güvenliğinde Performans İzleme Metodu Elmeri ve Karamanoğlu Mehmetbey Üniversitesi Teknik Bilimler Meslek Yüksekokulu Metal İşleri Atölyesinde Bir Uygulama". II. International Multidisciplinary Congress of Eurasia. Ukrayna/Odessa.

20. Atlı, B. (2018). Elmeri Yöntemiyle Beş Mermer Fabrikasının Genel İş Sağlığı ve Güvenliği Açısından İncelenmesi. Yüksek Lisans Tezi, Hacettepe Üniversitesi Fen Bilimleri Enstitüsü, Ankara.

21. Horozoğlu, K. (2017). "İş Kazalarının İş Sağlığı ve Güvenliği Açısından Analizi". Sosyal Bilimler Enstitüsü Dergisi, 7 (1), 265-281.

22. Civil, D. ve Acar, H. (2021). "Şirketlerin İş Sağlığı ve Güvenliği ile Çevre Kültürlerinin Elmeri Yöntemiyle Araştırılması". Journal of Medical Sciences, 2 (4), 44-58.

23. Gürbüz Kuzupınarı, H. (2016). Aksaray civarındaki taş ocaklarında ELMERI İSG gözlem yöntemi uygulamaları. Yüksek Lisans Tezi, Aksaray Üniversitesi Fen Bilimleri Enstitüsü, Aksaray.

24. Çukurluöz, S., Birgören, B., Yalçınkaya, M. ve Orçanlı, K. (2020). "Yalın Üretimde 6S Uygulamaları için bir Performans Denetim Yöntemi Önerisi". International Journal of Engineering Research and Development, 12 (2), 358-369.

25. Yaylalı, Ç. (2016). İş Sağlığı ve Güvenliğinde Performans İzleme Metodu Elmeri ve Karamanoğlu Mehmet Bey Üniversitesi Teknik Bilimler Meslek Yüksekokulu Metal İşleri Atölyesinde Bir Uygulama. Yüksek Lisans Tezi, Karamanoğlu Mehmetbey Üniversitesi Fen Bilimleri Enstitüsü, Karaman.

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Ergenlerde Sosyal Dışlanma ve İnternet Bağımlılığı İlişkisi

Relationship Between Social Exclusion And Internet Addiction In Adolescents

Esma ÖZMAYA[1], Beyza ERKOÇ[2]

ÖZ

Amaç: Bu araştırmanın amacı ergenlerde sosyal dışlanma ve internet bağımlılığı arasındaki ilişkinin değerlendirilmesidir. Ayrıca sosyal dışlanma ve internet bağımlılığının çeşitli değişkenler (cinsiyet, yaş, eğitim gördüğü sınıf düzeyi, sürekli internet erişim varlığı, bağlanılan cihaz, interneti kullanım amacı) açısından farklılaşıp farklılaşmadığını saptamaktır.

Gereç ve Yöntem: Araştırmanın örneklemi 983 lise öğrencisinden oluşmaktadır. Araştırma verileri Kişisel bilgi formu, Ergenler İçin Ostrasızm (Sosyal Dışlanma) Ölçeği ve Ergenler için internet bağımlılığı ölçeği kullanılarak toplanmıştır.

Bulgular: Araştırmanın sonucunda sosyal dışlanma ve internet bağımlılığı arasında güçlü bir ilişki bulunmuştur ($p<0,05$). Cinsiyet ile sosyal dışlanma ve internet bağımlılığı arasında anlamlı bir ilişki olduğu; sosyal dışlanmanın erkeklerde, bağımlılığın ise kadınlarda anlamlı düzeyde farklılaştığı görülmüştür. Yaş ve internet bağımlılığı arasında anlamlı bir ilişki saptanmıştır. İnternete sürekli ulaşımın olmasının bağımlılığı arttırdığı ayrıca internet kullanım amacı sosyal paylaşım yapma, müzik dinleme, oyun oynama veya sohbet etme olan öğrencilerin kullanım amacı ödev yapma olanlara göre daha yüksek bağımlılık riski taşıdığı saptanmıştır. Gençlerin kullandıkları cihaz açısından ise bilgisayar kullanımının sosyal dışlanmayı etkileyebileceği görülmüştür.

Sonuç: Araştırma sonucunda özellikle günümüzde ergenler arasında artan sosyal dışlanma ve internet bağımlılığı arasında güçlü bir bağlantı olduğu tespit edilmiştir. Bu durum ise gençlerde giderek ruh sağlığının bozulmasına neden olabilmektedir.

Anahtar Kelimeler: Ergen, Sosyal dışlanma, İnternet bağımlılığı, Ruh sağlığı.

ABSTRACT

Aim: The aim of this study is to evaluate the relationship between social exclusion and internet addiction in adolescents. In addition, it is to determine whether social exclusion and internet addiction differ in terms of various variables (gender, age, grade level, constant internet access, connected device, purpose of internet use).

Material-Method: The sample of the research consists of 983 high school students. Research data were collected using a personal information form, Ostracism (Social Exclusion) Scale for Adolescents and Internet addiction scale for Adolescents.

Findings: As a result of the research, a strong relationship was found between social exclusion and internet addiction ($p<0.05$). There is a significant relationship between gender and social exclusion and internet addiction; It was observed that social exclusion differed significantly in men and addiction in women. A significant relationship was found between age and internet addiction. It has been determined that constant access to the internet increases addiction, and that students whose purpose of internet use is social sharing, listening to music, playing games or chatting have a higher risk of addiction than those whose purpose of use is doing homework. In terms of the devices used by young people, it has been observed that computer use may affect social exclusion.

Results: As a result of the research, it was determined that there is a strong connection between increasing social exclusion and internet addiction, especially among adolescents today. This situation can gradually lead to deterioration of mental health in young people.

Keywords: Adolescent, Social exclusion, İnternet addiction, Mental health.

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[1] Dr.Öğr.Üyesi Esma ÖZMAYA, Psikiyatri Hemşireliği, Karamanoğlu Mehmetbey Üniversitesi Çocuk Gelişimi Bölümü, ozmayaesma@gmail.com, ORCID: 0000-0003-0932-4012

[2] Doç.Dr.Beyza ERKOÇ, Sosyal Hizmet, Karamanoğlu Mehmetbey Üniversitesi Sosyal Hizmet Bölümü, beyzahatipoglu@windowslive.com, ORCID: 0000-0002-0035-6582

İletişim / Corresponding Author: Esma ÖZMAYA

e-posta/e-mail: ozmayaesmaQgmail.com

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GİRİŞ

İnsan sosyal bir varlıktır. Her birey yaşamı boyunca ait olma, güvenme, sevme, sevilme, saygı duyulma ihtiyacını hisseder. Her insan önce ailesinin, sonra da toplumun bir üyesidir ve insanlarla bir şekilde sosyal ilişkilerini sürdürmek zorundadır. Bu ilişkiler gelişim sürecinde belirli dönemlerde daha fazla önem kazanmaktadır. Ergenlik dönemi de hem fiziksel hem de biyopsikososyal olarak gelişimin gözlendiği, sosyal ilişkilerin önem kazandığı bir dönem olarak karşımıza çıkmaktadır.[1] Her bir gelişim döneminin bir sonrakini etkilediğini de düşündüğümüzde ergenlik süreci tüm yaşamına dair bir etki bırakabilmektedir.

Ergenlik, bireyin aileden bağımsızlaştığı, sağlıklı sosyal ilişkiler geliştirmeye başladığı, giderek kimlik kazandığı ve sosyalleştiği bir dönemdir. Bu dönemde genç birey gelişimsel olarak bir yandan aile desteğine ihtiyaç duyarken diğer yandan sorunlarını arkadaş grupları gibi sosyal ortamlarda çözmeyi tercih etmektedir. Gerekli sosyal desteği alamayan ergenlerin giderek yalnızlaştığı, duygularıyla baş edemediği ve sosyal dışlanma yaşadığı görülmektedir.[2]

Sosyal dışlama fiziksel, psikolojik ve sosyal olarak bir kişiyi gözden çıkarmak, onu yalnızlaştırmak, ötekileştirmek gibi anlamlara gelebilmektedir.[3] Williams'a göre kişiye psikolojik olarak zarar veren eylemlerdir. [4] Bireyin temel ait olma ihtiyacının sosyal gruplar tarafından göz ardı edilmesine neden olan bir eylemdir. [5] Sosyal dışlanma, özellikle bireylerin sosyal açıdan daha duyarlı olduğu ergenlik dönemi gibi dönemlerde yaygın olarak görülmektedir. Ergenlik döneminde bireyin sağlığının korunması, sosyal ilişkiler kurması, toplumsal kuralları öğrenmesi ve oluşturması onun gelişimsel görevlerinden birkaç tanesi olarak karşımıza çıkmaktadır. Bu ilişkiler aynı zamanda ergen bireyin sosyal becerilerini de etkileyerek yeterliliklerini geliştirmektedir. Çoğu çalışmada akran ilişkilerinin ergenlerin gelişiminde önemli bir yere sahip olduğuna inanılmaktadır. Dolayısıyla ergenin bu sosyalleşme sürecinde bireylerin sosyal ilişkilerinde veya akran ilişkilerinde sorun yaşaması, dışlanması, reddedilmesi çok önemli sorunlara yol açmaktadır.[6] Dışlanmaya maruz kalan çocuklarla yapılan araştırmalar da duygularını daha az ifade etme gibi olumsuz etkilere sahip olduğu görülmektedir. Dışlanmaya verilen tepkiler hangi temel ihtiyaca (ait olma, özsaygı vb.) bağlı olduğuna göre ve verilen tepkiler de kişinin kendini tehdit altında hissedip hissetmemesine göre değişebilmektedir. [7]

Sosyal olarak aktif olamayan, sağlıklı ilişkiler kuramayan ve sosyal olarak dışlanan genç bireylerde saldırganlık, duygusal ve davranışsal sorunların ve bağımlılık riskinin arttığı da görülmektedir.[6] Ayrıca sosyal dışlanmaya maruz kalan bireylerde yaşamdan anlam kaybı, mutsuzluk, depresyon, dürtüsel davranışlar gibi pek çok ruhsal sorun gelişebilmektedir. [8] Öte yandan yalnızlık ve internet bağımlılığı birbirini beslemekte[9] ve internet bağımlılığı öz düzenleme sorunları, sosyal dışlanma, akademik başarısızlık, yıkıcılık, davranış sorunları gibi birçok duruma yol açabilmektedir. [10]

MATERYAL VE METOT

Araştırmanın Amacı ve Türü

Bu araştırma ile ergenlerin sosyal dışlanma ve internet bağımlılığı ilişkisi açısından değerlendirilmesi amaçlanmıştır. Araştırma tanımlayıcı nitelikte bir araştırmadır.

Araştırmanın Örneklemi ve veri toplama yöntemi

Bu araştırmanın örneklemini, basit tesadüfü örnekleme yöntemi ile belirlenen, Zonguldak il ve ilçe liselerinde belirlenen üç okulun, 13-18 yaş arasındaki öğrencileri oluşturmaktadır. Çalışmaya katılmayı kabul eden 983 birey araştırmaya dahil edilmiştir. Katılımcıların demografik özelliklerine ilişkin

bilgilere bulgular bölümünde değinilmektedir.

Araştırmanın Etik Yönü

Veri toplama işlemine başlamadan önce "Zonguldak Bülent Ecevit Üniversitesi İnsan Araştırmaları Etik Kurulu"ndan araştırma için etik onay (13.01.2022-123750) alınmış olup Zonguldak İl Milli Eğitim Müdürlüğü'ne uygulama için başvuru yapılmıştır. Araştırmada basit tesadüfi örnekleme yöntemi ile üç okul belirlenmiş ve veriler yüz yüze toplanmıştır. Katılımcılara araştırmanın amacı ve içeriği hakkında araştırmayı kabul eden bireyler ve ailelerine bilgi verilip onam alındıktan sonra uygulama aşamasına geçilmiştir. Uygulama aşaması yaklaşık 20 dakika sürmüştür. Araştırma boyunca verilerin gizliliğine ve etik ilkelere uygun davranılmıştır.

Verilerin Analizi

Araştırma kapsamında analizlere geçmeden önce değişkenlere ait tanımlayıcı istatistikler incelenmiştir. Basıklık ve çarpıklık katsayıları -2 ile +2 arasında olduğu için değişkenler normal dağılım göstermektedir. [11] Bu nedenle verilerin analizinde parametrik istatistikler kullanılmıştır. Değişkenler arasındaki ilişkiyi incelemek için pearson korelasyon analizi yapılmıştır. Sosyo-demografik değişkenlere göre sosyal dışlanma ve internet bağımlılığı puanlarını karşılaştırmak için bağımsız örneklemlerde t testi ve tek yönlü varyans analizi yapılmıştır. Tek yönlü varyans analizi sonrasında gruplar arasındaki farkın kaynağını belirlemek için post-hoc testler yapılmıştır. Gruplara ait varyanslar homojense Tukey çoklu karşılaştırma testi, homojen değilse Tamhane testi yapılmıştır. Analizler SPSS paket programında yapılmış ve anlamlılık düzeyi α=0,05 olarak belirlenmiştir.

Veri Toplama Araçları

Kişisel Bilgi Formu

Kişisel bilgi formu araştırmacılar tarafından oluşturulmuş olup; cinsiyet, yaş, eğitim gördüğü sınıf, sürekli internete erişiminin olup olmaması, internete bağlanılan cihaz ve interneti kullanım nedeni gibi bilgileri içermektedir.

Ergenler İçin Ostrasızm (Sosyal Dışlanma) Ölçeği

Ergenlerin sosyal dışlanmasına yönelik algıyı ölçmek amacıyla Gilman ve diğerleri (2013) [12] tarafından geliştirilen ölçek Akın, Uysal ve Akın (2016)[6] tarafından Türkçeye uyarlanmıştır. Ölçek iki alt boyuttan (önemsenmeme ve dışlanma) likert tipi 11 maddeden oluşmaktadır. Ölçeğin en düşük puanı 11, en yüksek puanı ise 55'tir. Ölçekte ters kodlanan madde bulunmamaktadır. Dereceleme ölçeği "Hiçbir zaman" ve "Her zaman" arasında değişmektedir. Ölçeğin cronbach alpha iç tutarlık katsayısı dışlanma alt boyutu için .90, önemsenmeme alt boyutu için .93, ölçeğin tamamı için ".89" olarak hesaplanmıştır.

Ergenler için internet bağımlılığı ölçeği

Ergenlerin internet bağımlılığını ölçmeye yönelik Taş (2019) [13] tarafından geliştirilen ölçek tek alt boyut ve likert tipi 9 maddeden oluşmaktadır. Ölçekte ters madde bulunmamaktadır. Dereceleme ölçeği "Hiçbir zaman" ve "Her zaman" arasında değişmektedir. Ölçekten alınacak yüksek puanlar internet bağımlılığı düzeyinin yüksek olduğunu göstermektedir. Ölçeğin cronbach alfa iç tutarlık katsayısı .81 olarak hesaplanmıştır.

Araştırmanın Kısıtlılıkları

Araştırma, çalışma kapsamına alınan öğrencilerin verdiği yanıtlarla sınırlıdır.

Teşekkür

Çalışmaya destek veren bütün öğrencilere teşekkür ederiz.

BULGULAR

Araştırmaya toplam 983 öğrenci katılmıştır. Bu öğrencilerin %55,24' ü kadındır. Bununla birlikte sınıf düzeyine göre %30,42' si 9.sınıf öğrencisi; yaşanan bölgeye göre %73,86' sı il merkezinde yaşamakta; %91,76'sının internet erişimi bulunmakta ve %80,06' sı internete telefon aracılığıyla bağlanmaktadır. Aynı zamanda katılımcıların %42,01 ile çoğunluğu interneti müzik dinleme, film ve video izleme amaçlı kullanmaktadır.

Tablo 1'de değişkenler arasındaki ilişkiyi incelemek için yapılan pearson korelasyon analizi sonuçlar yer almaktadır. Analiz sonucunda internet bağımlılığı ile önemsenmeme (r=0,26, p<0,01) ve sosyal dışlanma toplam puan (r=0,10, p<0,01) arasında pozitif yönlü, yaş (r=-0,07, p<0,05) ile negatif yönlü anlamlı ilişki bulunmuştur. Yaş ile önemsenmeme (r=0,04, p>0,05), dışlanma (r=0,05, p>0,05) ve sosyal dışlanma toplam puan (r=0,06, p>0,05) arasında anlamlı ilişki yoktur. Varyans analizi sonucunda sınıflara göre Dışlanma (F=2,74, p<0,05) ve İnternet bağımlılığı (F=3,82, p<0,05) puanlarında anlamlı fark bulunmuştur. Farkın hangi gruplar arasında olduğunu belirlemek için post-hoc testler kullanılmıştır. Analiz sonucunda dışlanma puanlarında 9.sınıf öğrencilerinin ortalaması, 12.sınıf öğrencilerin ortalamasından daha düşük bulunmuştur. İnternet bağımlılığı puanlarında ise 12.sınıf öğrencilerinin ortalaması 9. ve 10. sınıf öğrencilerinin ortalamasından anlamlı olarak daha düşük bulunmuştur.

Tablo 1. Değişkenler arası ilişkiler

	Önemsenmeme	Dışlanma	Sosyal Dışlanma – Toplam	İnternet Bağımlılığı	Yaş
Önemsenmeme	1				
Dışlanma	,38**	1			
Sosyal Dışlanma – Toplam	,72**	,91**	1		
İnternet Bağımlılığı	,26**	-,02	,10**	1	
Yaş	,04	,05	,06	-,07*	1

Tablo 2'de cinsiyete göre sosyal dışlanma ve internet bağımlılığı puanlarının karşılaştırılması amacıyla yapılan bağımsız örneklemlerde t testi sonuçları yer almaktadır. Analiz sonucunda cinsiyete göre Önemsenmeme (t=3,236, p<0,01), Dışlanma (t=-2,368, p<0,05) ve İnternet bağımlılığı (t=3,938, p<0,001) puanlarında anlamlı fark vardır. Kadınların, erkeklere göre önemsenmeme ve internet bağımlılığı puanları daha yüksekken dışlanma puanları daha düşüktür.

Tablo 2. Cinsiyete göre sosyal dışlanma ve internet bağımlılığı puanlarının karşılaştırılması

		n	Mean	SD	t	p
Önemsenmeme	Kadın	543	8,03	3,56	3,236	,001
	Tablo2.devamı					
	Erkek	440	7,31	3,32		
Dışlanma	Kadın	543	16,14	5,91	-2,368	,018
	Erkek	440	17,08	6,42		
Toplam	Kadın	543	24,22	8,14	-,392	,695
	Erkek	440	24,42	8,37		
İnternet Bağımlılığı	Kadın	543	23,60	8,21	3,938	,000
	Erkek	440	21,54	8,11		

Tablo 3'de internete bağlanılan cihaza göre sosyal dışlanma ve internet bağımlılığı puanlarının karşılaştırılması amacıyla yapılan analiz sonucunda internete bağlanılan cihaza göre Dışlanma ($F=6,24$, $p<0,01$) puanında anlamlı fark bulunmuştur. Dışlanma puanlarında internete bilgisayardan bağlananların ortalamasının, telefondan bağlananlardan anlamlı olarak daha yüksek olduğu görülmüştür.

Tablo 3. İnternete bağlanılan cihaza göre sosyal dışlanma ve internet bağımlılığı puanlarının karşılaştırılması

		n	Mean	SD	F	p	post-hoc
Önemsenmeme	Bilgisayar (a)	183	7,59	3,45	0,17	0,84	-
	Telefon (b)	787	7,74	3,50			
	Tablet (c)	13	7,46	2,44			
Dışlanma	Bilgisayar (a)	183	17,84	6,81	6,24	0,00	a > b
	Telefon (b)	787	16,22	5,94			
	Tablet (c)	13	19,00	6,88			
Toplam	Bilgisayar (a)	183	25,46	8,86	2,77	0,06	-
	Telefon (b)	787	24,01	8,08			
	Tablet (c)	13	26,46	7,85			
İnternet Bağımlılığı	Bilgisayar (a)	183	22,91	8,23	0,12	0,88	-
	Telefon (b)	787	22,61	8,22			
	Tablet (c)	13	23,23	8,82			

Tablo 4'de internet erişiminin bulunma göre sosyal dışlanma ve internet bağımlılığı puanlarının karşılaştırılması amacıyla yapılan analiz sonucunda internet erişimi bulunma durumuna göre önemsenmeme (t=-2,93, p<0,01), dışlanma (t=-3,54, p<0,01), sosyal dışlanma toplam puan (t=-3,89, p<0,01) ve internet bağımlılığı (t=2,26, p<0,05) puanlarında anlamlı fark vardır. İnternet erişimi olanların sosyal dışlanma toplam puan ve alt boyutlarına ait ortalamaları daha düşükken, internet bağımlılığı ortalamaları daha yüksektir.

Tablo 4. İnternet erişiminin bulunma durumuna göre sosyal dışlanma ve internet bağımlılığı puanlarının karşılaştırılması

		n	Mean	SD	t	p
Önemsenmeme	Evet	902	7,61	3,43	-2,93	0,00
	Hayır	81	8,79	3,82		
Dışlanma	Evet	902	16,35	6,09	-3,54	0,00
	Hayır	81	18,86	6,42		
Toplam	Evet	902	24,00	8,13	-3,89	0,00
	Hayır	81	27,69	8,72		
İnternet Bağımlılığı	Evet	902	22,85	8,25	2,26	0,02
	Hayır	81	20,70	7,72		

Tablo 5'da internet kullanım amacına göre sosyal dışlanma ve internet bağımlılığı puanlarının karşılaştırılması amacıyla yapılan analizler sonucunda internete bağlanılan cihaza göre Önemsenmeme (F=2,48, p<0,05), Dışlanma (F=4,12, p<0,01) ve İnternet bağımlılığı (F=9,44, p<0,01) puanlarında anlamlı fark bulunmuştur. Önemsenme puanlarında interneti oyun oynama amaçlı kullananların ortalaması, müzik dinleme ve film izleme amaçlı kullananların ortalamasından daha düşük bulunmuştur. Dışlanma puanlarında interneti oyun oynama amaçlı kullananların ortalaması sosyal paylaşım yapma ve sohbet etme amaçlı kullananların ortalamasından daha yüksek bulunmuştur. İnternet bağımlılığı puanlarında, interneti ödev yapma amaçlı kullananların ortalaması interneti sosyal paylaşım yapma, oyun oynama, sohbet etme, müzik dinleme ve film-video izleme amaçlı kullananların ortalamasından daha düşük bulunmuştur.

Tablo 5. İnternet kullanım amacına göre sosyal dışlanma ve internet bağımlılığı puanlarının karşılaştırılması

		n	Mean	SD	F	p	post-hoc
Önemsenmeme	Sosyal paylaşım yapma (a)	146	7,47	3,55	2,48	0,04	b < e
	Oyun oynama (b)	180	7,13	3,06			
	Sohbet etme (c)	189	7,73	3,58			
	Ödev yapma (d)	55	7,63	3,91			
	Müzik dinleme, film, video (e)	413	8,05	3,48			

Tablo 5. İnternet kullanım amacına göre sosyal dışlanma ve internet bağımlılığı puanlarının karşılaştırılması (Devamı)

Dışlanma	Sosyal paylaşım yapma (a)	146	15,62	6,26	4,12	0,00	b > a
	Oyun oynama (b)	180	17,49	6,75			b > c
	Sohbet etme (c)	189	15,58	5,84			
	Ödev yapma (d)	55	18,13	6,41			
	Müzik dinleme, film, video (e)	413	16,73	5,86			
Toplam	Sosyal paylaşım yapma (a)	146	23,16	8,31	2,26	0,06	-
	Oyun oynama (b)	180	24,64	8,50			
	Sohbet etme (c)	189	23,36	8,30			
	Ödev yapma (d)	55	25,82	9,21			
	Müzik dinleme, film, video (e)	413	24,80	7,88			
İnternet Bağımlılığı	Sosyal paylaşım yapma (a)	146	25,18	9,73	9,44	0,00	d < a
	Oyun oynama (b)	180	22,87	8,09			d < b
	Sohbet etme (c)	189	22,99	8,05			d < c
	Ödev yapma (d)	55	17,55	5,88			d < e
	Müzik dinleme, film, video (e)	413	22,25	7,70			

TARTIŞMA

Bu araştırma ile ergenlerde sosyal dışlanmanın internet bağımlılığı üzerine etkisi ve aynı zamanda cinsiyet, yaş, eğitim gördüğü sınıf düzeyi, sürekli internet erişimi varlığı, internete bağlanılan cihaz ve internete bağlanma nedenlerine göre değişip değişmediğini belirlemek amaçlanmıştır. Literatürde sosyal dışlanma ve internet bağımlılığı arasındaki ilişkileri inceleyen çalışmaların kısıtlı olduğu görülmektedir ve buna bağlı olarak sosyal dışlanmaya maruz kalan bireylerin yaşadığı yalnızlık ve sosyal izolasyon ile ilgili çalışmalar da tartışmada ele alınmıştır.

Araştırmanın amacı doğrultusunda yapılan analiz sonucuna göre ergenlerde sosyal dışlanma ve internet bağımlılığı arasında pozitif yönlü anlamlı bir ilişki olduğu yani birbirini etkilediği görülmektedir. Alanyazındaki bazı sonuçlar araştırmamızı destekler şekilde, sosyal dışlanmanın İnternet bağımlılığını pozitif olarak yordadığını gösterirken [14] bazı araştırmalar ise sosyal dışlanma ile internet bağımlılığı arasında anlamlı bir ilişki göstermemiştir. [15] Taş ve Öztosun (2018)'un [16] yaptığı ergenlerde algılanan sosyal destek ve sosyal dışlanma deneyimlerinin internet bağımlılığı üzerindeki etkisini inceledikleri araştırmalarında sosyal

dışlanma ve bağımlılık arasında anlamlı bir ilişki olduğu görülmektedir. Benzer şekilde Hawk ve ark. (2019) [17] tarafından 307 ergenle yapılan bir çalışmada ergenlerin sosyal dışlanmadan kurtulmak için ve dikkat çekme adına sosyal medyada daha sık vakit geçirdiği ancak bunun sonucunda da bağımlılık gibi yıkıcı davranışlar gösterdiği görülmektedir. Ayrıca yalnızlık, sosyal becerilerdeki eksiklik, sosyal izolasyon ve patolojik internet kullanımı ile doğrudan bağlantılıdır. [18] Rebisz ve arkadaşlarının (2016) [19] yaptığı bir araştırmaya göre internet bağımlılığı ve sosyal izolasyon arasında çok yüksek bir ilişki mevcuttur. Dikmen (2019)'in [20,21] telefon bağımlılığı ve yalnızlık arasındaki ilişkiyi değerlendirdiği araştırmalarında da pozitif yönlü bir ilişki olduğu görülmüştür.

Araştırmamızda cinsiyete göre sosyal dışlanma ve internet bağımlılığı değerlendirildiğinde erkeklerin sosyal dışlanma ölçeği puan ortalamaları kadınlara göre daha yüksek bulunmuştur. Bu sonuca göre erkelerin daha çok sosyal dışlanmaya maruz kaldıkları söylenebilmektedir. Harding (2013)'in [22] çocukların akran dışlamasına ne kadar maruz kaldığını değerlendirdiği bir araştırma sonucuna göre en fazla erkekler dışlamaya maruz kalmışlarıdır. İnternet bağımlılığı açısından ise kadınların puan ortalamaları erkeklerden yüksek bulunmuştur.

Araştırmamızda örneklem grubu özelliği ve internet kullanım nedenleri açısından da bakıldığında en fazla sosyal medya kullanımı ve oyun için internette vakit geçirdikleri görülmüştür ve literatürde de bununla bağlantılı olarak kadınların sosyal medya kullanımında daha hassas oldukları, sosyal kaygıyı daha çok yaşadıkları ve sosyal medyada daha çok zaman geçirdikleri ve bağımlılığa daha yatkın oldukları görülmektedir.[23] Literatürde erkeklerin daha çok patolojik internet kullandıkları daha yüksek bağımlılık puanı aldıklarını gösteren çalışmalar da mevcuttur. [24]

Araştırma sonucuna göre yaş ve okudukları sınıf ortalamalarında sosyal dışlanma açısından herhangi bir farklılık görülmezken, internet bağımlılığı bireylerin yaş ve okudukları sınıf açısından anlamlı farklılık olduğu görülmüştür. Özellikle 15 yaş olan grubun 17 ve üzeri yaşa göre, 9 ve 10.sınıf öğrencilerinin ise 12. Sınıf öğrencilerine göre puan ortalamalarını daha yüksek olduğu ve bağımlılık açısından daha riskli oldukları görülmektedir. Alanyazında bizim araştırma sonucumuza benzer ve farklı sonuçlar görülmektedir. Bunun sebebinin farklı yaş gruplarına yönelik kesitsel araştırmalar çoğunlukla yapılmış olmasının yol açtığı düşünülmektedir. Altınova ve ark. (2019)'ın [25] yaptığı 11-17 yaş arası ergenlerdeki internet bağımlılığını değerlendirdiği araştırmasında benzer şekilde 15 yaş civarında bağımlılığın arttığı, Özgözgü ve ark. (2022)'nın [26] yaptığı bir araştırmaya göre ise eğitim gördüğü sınıfın bağımlılığa etkisinin olmadığı görülmektedir.

Ayrıca araştırmamızda ergenlerin internet erişiminin olup olmamasının sosyal dışlanma ve internet bağımlılığını etkilediği ve istatistiksel olarak anlamlı olduğu bulunmuştur. İnternetin uzun saatler kullanılmasının yani internetin varlığının bağımlılık riskini arttırdığı görülmektedir. Bizim çalışmamıza benzer şekilde Vondráčková ve Gabrhelik (2016)' in araştırmasında internet kullanımın artmasıyla bağımlılığın arttığına yönelik sonuçlar olduğu görülmektedir.[27]

İnternete bağlanılan cihazlar arasında ise istatistiksel olarak sosyal dışlanma ve internet bağımlılığı açısında anlamlı bir farklılık görülmemektedir. Fakat dışlanma alt boyutu bilgisayar kullanan kişilerde farklılaşmaktadır. Yapılan bir araştırma sonucuna göre bizim araştırmamızdan farklı şekilde kişisel bilgisayar kullanımının internet bağımlılığını arttırdığı görülmüş[28] fakat sosyal dışlanma alt boyutu açısından bu durumu değerlendiren araştırma görülmemiştir. Bu durumun sebebinin kullanım amaçları ile bağlantılı olarak oyun oynamanın ve eğitimin dijital platformlar üzerinden olmasının bilgisayar kullanımı bir bilgisayara sahip olma oranlarını arttırdığı, buna bağlı olarak bir farklılaşma görüldüğü düşünülmektedir. Artık gençler çok erken yaşlarda bir teknolojik cihazlara sahip olmakta ve bu durum ne yazık ki akran grupları arasında bir güç gösterisi, kendini

özel hissetme gibi duyguların artmasına ve çocukların bir araya geldiklerinde sohbetlerinin bile teknoloji ile ilgili olmasına sebep olmaktadır. Bunun sonucunda ise özellikle bu yaş grubunda bilgisayarı olmayan bireyler dışlanmaya maruz kalabilmekte ya da kendilerini böyle hissedebilmektedirler.

Araştırmamızda ergenlerin internet bağımlılığı düzeylerinin, kullanım amaçları bakımından istatistiksel olarak farklılık gösterdiği de bulunmuştur. İnternet kullanım amacı sosyal paylaşım yapma, müzik dinleme, oyun oynama veya sohbet etme olan öğrencilerin İnternet Bağımlılığı Ölçeği'nden almış oldukları puanlar kullanım amacı ödev yapma olanlara göre daha yüksek olarak tespit edilmiştir. Bizim araştırmamızla paralel olarak Aral ve Keskin (2018)'nin [29] yaptığı çocukların internet kullanım amaçlarını ve oranlarını değerlendirdiği çalışmasında çocukların sıklıkla oyun oynamak için dijital cihazları kullandıkları görülmüştür. Yine literatürde özellikle bu yaş grubunda öğrencilerin interneti yüksek oranlarda sosyal medya amaçlı kullandıkları görülmektedir. Sosyal medya gençlerin kendilerini istedikleri şekilde ortaya koyabildikleri ve özgürleşebildikleri bir ortam olması açısından etkili bir paylaşım ortamı olmuştur. [30] Durak ve Seferoğlu (2018)'nun [31] yaptığı çalışmaya göre sosyal medya kullanımı bağımlılıkta önemli bir değişken olarak bulunmuştur. Yine başka bir araştırmada sosyal medya kullanımının telefon bağımlılığını yordayıcı bir değişken olduğu görülmüştür. [32]

SONUÇ VE ÖNERİLER

Araştırma sonucunda özellikle günümüzde gençler arasında giderek artan sosyal dışlanma ve internet bağımlılığı arasında güçlü bir bağlantı görülmüştür. Son yıllarda gençler arasında teknoloji giderek artan bir iletişim ortamı yaratmaktadır. Farklı platformlarda özgürce dolaşan gençler duygusal tatmin yaşamaktadır. Özellikle duygu yoksunluğu yaşayan, benlik saygısı zayıf ve sosyal olarak izole olan gençler bu ortamlarda kendilerini istedikleri gibi ortaya koyarak yer almaktadırlar. Fakat bu durum giderek gençlerin ruh sağlığını bozabilmektedir ve sonucunda ise çeşitli davranış problemlerinin, uyku ve yeme sorunlarının artmasına yol açabileceği de düşünülmektedir. Bu nedenle özellikle aileden başlamak üzere okul ve akran ortamı değerlendirilmelidir. Ailelere sağlıklı internet kullanımına yönelik bilgi verilmelidir. Ailelerin çocukları ile olan iletişimleri arttırılmalı sağlıklı bağlanma sağlanmalıdır. Okullarda özellikle teknolojinin doğru kullanımı, stresle baş etme yöntemleri, iletişim gibi alanlarda gençlere eğitim verilmeli doğru iletişim ortamları aktiviteler oluşturulmalıdır. Kamuoyunda özellikle çağımızın problemi olan bağımlılığı önleme üzerine farkındalık çalışmaları yapılmalı, kamu-stk işbirliği ile projeler düzenlenmelidir.

KAYNAKLAR

1. Yavuzer, H. (2017). "Çocuk Psikolojisi" (41. B.). İstanbul: Remzi Kitapevi;.
2. Büyükşahin, ÇG. ve Yıldız, MA. (2017). "The Roles of Perceived Social Support, Coping, and Loneliness in Predicting Internet Addiction in Adolescents". Eğitim ve Uygulama Dergisi.;8(12):64–73. https://files.eric.ed.gov/fulltext/EJ1140618.pdf
3. Riva, P. and Eck, J. (2016). "The many faces of social exclusion". P Riva, J Eck, editor. Social exclusion: Psychological approaches to understanding and reducing its impact. Springer International Publishing.; p. 9-15
4. Williams, KD., Forgas, JP. and Hippel, WV. (2005). "The social outcast: Ostracism. Social exlusion, rejection and bullying". N.Y: Psychology Press.
5. Hartgerink, CH., Van Beest, I., Wicherts, JM. and Williams, KD. (2015). "The ordinal effects of ostracism: A meta-analysis of 120 Cyberball studies". PLoS One. 10(5):e0127002. doi: 10.1371/journal.pone.0127002
6. Akın, A., Uysal, R. ve Akın, Ü. (2016). "Ergenler için sosyal dışlanma ölçeği Türkçe formunun geçerlik ve güvenirliği" [The validity and reliability of Turkish version of the ostracism experience scale for adolescents]. Kastamonu Eğitim Dergisi. 24(2):895-904. https://dergipark.org.tr/tr/download/article-file/209749
7. Pickett, CL., Gardner, WL. and Knowless, ML. (2004). "Getting a cue: the need to belong and enhanced sensivity to social cues". Personaltiy and Social Pscyhology Bulletin, 30(9):1095-1107. doi: 10.1177/0146167203262085
8. Sjåstad, H., Zhang, M., Masvie, AE. and Baumeister, R. (2020). "Social exclusion reduces happiness by creating expectations of future rejection". Self and Identity. 20:1–10. doi: 10.1080/15298868.2020.1779119

9. Yao, MZ. and Zhong, Z. (2014). "Loneliness, social contact and internet addiction: A cross-lagged panel study". Computers in Human Behavior.30:164–170. doi: 10.1016/j.chb.2013.08.007

10. Tokunaga RS. (2015). "Perspectives on internet addiction, problematic internet use, and deficient self-regulation: Contributions of communication research". Annals of the International Communication Association.39(1):131–161. doi: 10.1080/23808985.2015.11679174

11. George, D. and Mallery, M. (2010). "SPSS for Windows Step by Step: A Simple Guide and Reference". Pearson

12. Gilman, R., Carter-Sowell, A., DeWall, N., Adams, R., Carboni, I. (2013). "Validation of the ostracism experiences scale for adolescents". Psychological Assessment, 25(2): 319-330. doi: 10.1037/a0030913.

13. Taş, İ. (2019). "Ergenler için internet bağımlılığı ölçeği: Geçerlik ve güvenirlik çalışması [Internet addiction scale for adolescents: validity and reliability study]". Kırşehir Eğitim Fakültesi Dergisi,20(2), 875- 905. doi: 10.29299/kefad.2019.20.02.011

14. Lim, M. (2019). "Social exclusion, surveillance use, and Facebook addiction: The moderating role of narcissistic grandiosity". International Journal of Environmental Research and Public Health. 16(20):3813. doi: 10.3390/ijerph16203813

15. Bagir, A., Emre, O., Cumurcu, HB. ve Ulutas, A. (2020). "The relationship between social exclusion (Ostracism) and internet addiction of adolescent girls". Research in Pedagogy. 10(1):50–65. https://eric.ed.gov/?id=EJ1246474

16. Taş, B. ve Öztosun, A. (2018). "Predictability of internet addiction with adolescent perception of social support and ostracism experiences", TOJET: The Turkish Online Journal of Educational Technology. 17(4):32-41. https://files.eric.ed.gov/fulltext/EJ1192818.pdf

17. Hawk, ST., van den Eijnden, RJ., van Lissa, CJ., ter Bogt, TF. (2019). "Narcissistic adolescents' attention-seeking following social rejection: Links with social media disclosure, problematic social media use, and smartphone stress". Computers in Human Behavior, 2019;92:65-75. doi:10.1016/j.chb.2018.10.032

18. Kim, J., LaRose, R. and Peng, W. (2009). "Loneliness as the cause and the effect of problematic internet use: The relationship between internet use and psychological well-being". Cyberpsychology & Behavior, 12:451-455. doi: 10.1089/cpb.2008.0327

19. Rębisz S, Sikora I, Smoleń-Rębisz K. (2016). "Poczucie samotności a poziom uzależnienia od internetu wśród adolescentów". Edukacja - Technika – Informatyka 7(1):90-98. doi: 10.15584/eti.2016.1.13

20. Dikmen, O. (2019). "Genç erişkinlerde internet bağımlılığı düzeyleri ile sosyal görünüş kaygısı ve yalnızlık düzeyleri arasındaki ilişkinin incelenmesi" [Yükseklisans Tezi]. İstanbul: Üsküdar Üniversitesi. [Erişim tarihi: 20.11.2023] https://acikbilim.yok.gov.tr/handle/20.500.12812/376427

21. Çakır, Ö. ve Oğuz, E. (2017). "Lise öğrencilerinin yalnızlık düzeyleri ile akıllı telefon bağımlılığı arasındaki ilişki" [The correlation between high school students' loneliness levels and smart phone addiction]. Mersin Üniversitesi Eğitim Fakültesi Dergisi. 13(1): 418-429. doi.org/10.17860/mersinefd.290711

22. Harding, R. (2013). "Friendship and Exclusion: A Look At How Having A Best Friend Wihtin the Preschool Claasroom Affects Exclusion". Master of Arts in Early Childhood Education, Spring. Usa: Mills College.

23. Aktan, E. (2018). "Sosyal medya ve sosyal kaygı: Sosyal medya kullanıcıları üzerine bir araştırma [Social media and social anxiety: A research on social media users]". Selçuk Üniversitesi İletişim Fakültesi Akademik Dergisi, 11(2):35-53. https://dergipark.org.tr/tr/download/article-file/504808

24. Şahan, M. ve Eraslan Çapan, B. (2017). "Ergenlerin problemli internet kullanımında kişilerarası ilişkilerle ilgili bilişsel çarpıtmaların ve sosyal kaygının rolü [The role of interpersonal cognitive distortions and social anxiety in adolescents' problematic internet use]". Ege Eğitim Dergisi. 18(2):887-913. doi:10.12984/egeefd.336391

25. Altınova, A., Daşbaş, S. ve Kesen, NF. (2019). ""17 yaş arası ergenlerde internet bağımlılığı ve video kanallarının takip edilmesinin incelenmesi [Examination of internet addiction and following video channels in adolescents aged 11-17]". Pediatric Practice and Research. 7(Ek):90–96. https://dergipark.org.tr/tr/pub/pprjournal/issue/51342/668749

26. Özgözgü, S., Şimşek, H., Arıkan, MF., Alyaprak, A., Günay, B. ve Eyigüngör, N. (2022). "Lise öğrencilerinde problemli internet kullanımı ile sosyal destek algıları arasındaki ilişkiler [The relationship between problematic internet use and perceived social support systems of high school students]". Millî Eğitim Özel Eğitim ve Rehberlik Dergisi. 2(3):33-62. https://dergipark.org.tr/tr/download/article-file/2298307

27. Vondráčková, P. and Gabrhelik, R. (2016). Prevention of internet addiction: A systematic review. Journal of Behavioral Addictions. 5(4):568-579. doi: 10.1556/2006.5.2016.085

28. Gökçearslan, Ş. ve Günbatar, MS. (2012). "Ortaöğrenim öğrencilerinde internet bağımlılığı [Internet addiction in high school students]". Eğitim Teknolojisi Kuram ve Uygulama. 2(2):10-24. https://dergipark.org.tr/tr/pub/etku/issue/6271/84223

29. Aral, N. ve Doğan Keskin, A. (2018). "Ebeveyn bakış açısıyla 0-6 yaş döneminde teknolojik alet kullanımının incelenmesi [Examining 0-6 year olds' use of technological devices from parents' points of view]". Addicta: The Turkish Journal on Addiction. 5(2):317–348. doi: 10.15805/addicta.2018.5.2.0054

30. Aydın, İ E. (2016). "Üniversite öğrencilerinin sosyal medya kullanımları üzerine bir araştırma: Anadolu üniversitesi örneği [A study on usage of social media among univerty students: Anadolu university case]". Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 33: 373–386. http://dergisosyalbil.selcuk.edu.tr/susbed/article/view/1256

31. Durak, H. ve Seferoğlu, S. (2018). "Ortaokul öğrencilerinin akıllı telefon kullanımları ve bağımlılık düzeyleriyle ilgili bir inceleme [An Examination of Smartphone Use and Addiction among Middle School Students]". Eğitim Teknolojisi Kuram ve Uygulama,;8(1):1-23. doi: 10.17943/etku.288822

32. Genç Demirağ, D. (2017). "Ankara yıldırım beyazıt üniversitesi sağlık bilimleri fakültesi hemşirelik bölümü ve tıp fakültesi öğrencilerinde akıllı telefon bağımlılığı ile depresyon ve anksiyete düzeyleri arasındaki ilişkinin değerlendirilmesi" [Uzmanlık tezi]. Ankara: Yıldırım Beyazıt Üniversitesi Tıp Fakültesi Aile Hekimliği Anabilim Dalı; [Erişim tarihi: 26.11.2023]. https://acikerisim.aybu.edu.tr:8443/server/api/core/bitstreams/d040a4cb-c349-4e6a-8004-82638b922e26/content

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Sağlık Alanında Kadın Girişimcilikle İlgili Yayınlanmış Akademik Çalışmaların Bibliyometrik Analizi

Bibliometric Analysis of Published Academic Studies on Women Entrepreneurship in the Field of Health

Havva ŞAHİN[1]

ÖZ

Çalışmada sağlık alanında kadın girişimcilik ile ilgili yayınlanmış akademik çalışmaların bibliyometrik analizini yapmak için "women entrepreneurs in health" anahtar kelimesi ile Web of Science (WoS) veri tabanından "tüm alanlar" seçimi yapılarak tarama yapıldı. 1990-2023 yılları arasında konuyla ilgili 247 makale çalışması yapıldığı sonucuna ulaşıldı.Çalışmanın verileri bibliyometrik analiz programı olan VOSviewer 1.6.20 ile yapıldı. Çalışma ile sağlık alanında kadın girişimcilik ile yapılan yayınların yılı, yayın yapan yazarlar, yayın yapılan ilgili konular, indeksler, yayın yapılan ülkeler belirlendi. VOSviewer programında analizler gerçekleştirilerek ortak yazar analizleri, atıf analizleri, anahtar kelime analizleri gerçekleştirildi. Elde edilen verilere göre konuyla ilgili en çok yayın 2021 yılında, en çok yayın yapılan alan işletme alanında, en çok çalışma yapan yazar Manavi Gupta, en çok çalışma indeksi Social Sciences Citation Index (SSCI), en çok çalışma yapılan ülke Amerika Birleşik Devletleri'dir. Türkiye ise sağlıkta kadın girişimcilik alanında yayın yapma sırasına göre 69. sırada yer almaktadır. Yazar atıf analizine göre en çok atıf alan yazar Kamal Naser'dir. Ülke atıf analizi yoğunluk haritasına göre en çok yayın yapan ülke Amerika Birleşik Devletleri'dir. Kurum atıf analizine göre National Health Service kurumu en çok yayın yapan kurumdur. Ortak yazar analizinde de en çok yayın yapan yazar Kamal Naser'dir. Yazarlar tarafından en çok kulllanılan "entrepreneurship" ortak kelimesidir.

Anahtar Kelimeler: Bibliyometrik Analiz, Sağlık, Kadın

ABSTRACT

In the study, in order to conduct a bibliometric analysis of published academic studies on women entrepreneurship in the field of health, a search was made by selecting "all fields" from the Web of Science (WoS) database with the keyword "women entrepreneurs in health". It was concluded that 247 articles were published on the subject between 1990 and 2023.The data of the study was performed with the bibliometric analysis program VOSviewer 1.6.20. With the study, the year of publications on women entrepreneurship in the field of health, authors who published, relevant subjects published, indexes, and countries where publications were made were determined. Analyzes were carried out in the VOSviewer program and co-author analyses, citation analyses, and keyword analyzes were carried out. According to the data obtained, the most publications on the subject were in 2021, the field with the most publications was in the field of business, the author with the most studies was Manavi Gupta, the most study index was the Social Sciences Citation Index (SSCI), and the country with the most studies was the United States. . Turkey ranks 69th in the order of publications in the field of women entrepreneurship in health. According to author citation analysis, the most cited author is Kamal Naser. According to the country citation analysis density map, the country with the most publications is the United States. According to institution citation analysis, the National Health Service institution is the institution that publishes the most. In the co-author analysis, the most published author is Kamal Naser. The common word most used by writers is "entrepreneurship".

Keywords: Bibliometric Analysis, Health, Women

[1] Öğr. Gör, Havva ŞAHİN, İşletme, Gümüşhane Üniversitesi Sosyal Bilimler Meslek Yüksekokulu Sosyal Hizmet ve Danışmanlık Bölümü, havva.sahin@gumushane.edu.tr, ORCID: 0000-0002-4137-5218

İletişim / Corresponding Author: Havva ŞAHİN
e-posta/e-mail: havva.sahin@gumushane.edu.tr

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GİRİŞ

Kadınların ekonomi dünyasında işgücünde aktif olması, iş hayatında çalışma saatlerinin düzenlenmesi, kadınları koruyan önlemlerin alınması, kadınlar çalışmadığında ailede geçim sıkıntılarının yaşanması, kadınların aile gelirine katkılarının önemli olması nedenleri ile kadın girişimcilik kavramı ortaya çıkmıştır.[1] Kadın girişimciler risk alabilen ve kendi işini kurabilen cinsiyeti kadın olan girişimcilerdir.

Ekonomik özellikte değerlendirilen kadın girişimciler toplumun tamamını etkilemektedir. İş hayatında aktif rol almak isteyen, kendi parasını kazanmak isteyen, kariyer yapmak ya da aile hayatı dışında kendilerine yeni bir alan açmak isteyen girişimcilerdir.[2] Kadının kurduğu bir firma olup, firmayı yöneten ve girişimcilik faaliyetleri gerçekleştiren girişimcilerdir. Girişimci kadınların çalışma hayatında yer alması, iş ve akademik dünyada yeni fırsatlara olanak sağlamakta ve ekonominin ilerlemesinde stratejik bir avantaj sağlamaktadır. Ancak kadın girişimciler farklı zorluk ve engellerle karşılaşabilmektedir.

Güçlü karaktere sahip kadın girişimcilere fırsatlar sağlandığında beşeri ilişkilerini arttırarak iş kaynaklarını belirli bir plan dahilinde kullanabilmekte, olumsuz çatışmaları ortadan kaldırarak motivasyonun yüksek olduğu çalışma ortamları oluşturabilmektedir.[3] Diğer taraftan risk alarak ilgili sektörlerde örgütlenen, kendi kurdukları firmaları yöneten, kendine değer veren, kendini gerçekleştirmek isteyen, kaynak sıkıntısı yaşayan ve kazanç elde etmek için bir amaç doğrultusunda hayallerinin peşinden giden kadın girişimciler farklı zorluklarla karşılaşmaktadır.[4] Dünyada 1970'li yıllarda oluşan ekonomik krizin etkileri olumsuz sonuçlar oluştursa da çalışma hayatında kadınlara yer verilmesi ve yoksulluğun azalmasıyla kadın girişimcilik ilerleme yaşamıştır. 2000'li yıllardan sonra gerekli desteklerin artmasıyla kadın girişimci sayısında da artışlar yaşanmıştır.[5]

Girişimciliğin yenilik üzerine kurulu olması, kadın girişimcilerin de yenilikçiliğe dayalı olarak iş modelleri oluşturmaları kadın girişimcilerin yeni kurulan diğer firmalarla işbirliği yapılarak ulusal ve uluslararası pazarda faaliyetlerine başlamasına olanak sağlamaktadır.[6]

Kadın girişimciler ve erkek girişimcilerin farklı özelliklere sahip olması toplum yapısına, sahip olunan rollere, gelişen ve değişen şartlara bağlı olarak değişkenlik göstermektedir. Bu değişkenlik kadın girişimcilerin girişim kurup, büyütmesine olanak sağlamaktadır. Erkek girişimcilerin ekonomik açıdan ilerlemeye ihtiyaç duyduğu, kadın girişimcilerin ise sosyal ve bireysel desteğe ihtiyacı olduğu, daha çok iş ağlarına, iletişim süreçlerine ve sosyal desteklere göre büyüme gösterdikleri ortaya çıkmaktadır.[7]

Sağlık alanında kadın girişimciliği, sağlık sektöründe iş kurma, girişimcilik faaliyetlerini gerçekleştirmektir. Sağlık sektöründe kadın girişimciler iş ve yaşam dengesini sağlama noktasında sıkıntı yaşamaktadırlar. Sağlık sektörünün yoğun bir çalışma özelliğine sahip olması kadın girişimcilerin yaşamlarında denge kurabilmesini zorlaştırmaktadır.[8] Özellikle Covid-19 pandemi salgınından sonra sağlık sektöründe oluşan riskleri ve olumsuz durumları azaltmak için kadın girişimciler yeni araştırmalar yapmaya başlamıştır. Sağlık açısından evde karantina dönemleri başlayınca kadın girşimciler faaliyetlerini evden yürüterek aile bireylerine daha çok zaman ayırmışlardır.[9] Diğer taraftan sağlık sektöründe görev alan girişimci kadınların ev sorumluluklarının bulunması, yönetici olduklarında olumsuzluklar yaşamaları, çalışma saatlerinin yoğunluğu, esnek çalışma zamanlarının olmaması kadın girişimcileri etkilemektedir.[10]

Bu bağlamda sağlıkta kadın girişimcilerle ilgili bilim alanında yapılan çalışmaların gelişimsel sürecini inceleyebilmek için araştırma yapılmıştır. Araştırmada konuyla ilgili en güncel bilgilere ulaşabilmek için makale çalışmaları değerlendirmeye alınmıştır. Araştırmada bibliyometrik analiz yapılmıştır. Bibliyometrik analiz, bir bilim alanında matematiksel ve haritalama tekniklerinin kullanıldığı analiz türüdür. İlgili

bilim dalını derinlemesine incelemek için tercih edilmektedir.[11]Bu nedenle çalışmada bibliyometrik analiz ile sağlıkta kadın girişimciliği araştırılmıştır. Araştırmada bibliyometrik analiz için verilerin Web of Science (WoS) veri tabanından elde edilmesinin nedeni, akademik uluslararası veri tabanı olmasıdır.[12] Araştırmanın ilk bölümünde sağlıkta kadın girişimcilik ile ilgili kavramsal çerçeve bulunmaktadır.

Araştırmanın ikinci bölümünde materyal ve metot alanında araştırmanın tasarımı, araştırmanın evreni ve örneklemi, araştırmanın kısıtlılıkları bölümleri vardır. Araştırmanın üçüncü bölümünde bulgular ve tartışma alanında elde edilen verilerle ulaşılan analiz sonuçları yer almaktadır. Araştırma sonuçlarına göre sağlıkta kadın girişimciliğin yıllara, yazarlara, indekslere, kategorilere, ülkelere, ortak yazarlara, atıflara ve ortak kelimelere durumu ortaya konulmuştur.

MATERYAL VE METOT

Araştırmanın Tasarımı

Araştırma bibliyometrik analiz ile gerçekleştirildi. Araştırmada "women entrepreneurs in health" anahtar kelime ile tüm alanlarda tarama yapılarak 247 makale çalışmasına ulaşıldı. Çalışmalar 1990-2023 yılları arasında yer alan veriler Web of Science veri tabanından indirildi. Araştırma iki adımdan oluşmaktadır. Birinci adım veri tabanından verilerin elde edilmesidir. İkinci adımda ise VOSviewer analiz programı ile elde edilen verilerin görsel haritalama tekniği ile analizleri yapılmasıdır. Elde edilen veriler VOSviewer 1.6.20 haritalama, görselleştirme programı ile bibliyometrik analizler yapılarak sonuçlara ulaşılmıştır. VOSviewer programı ile ortak atıf, anahtar kelime, yazar atıf ve metinlerin bibliyometrik eşleştirme analizleri yapılmıştır.

Araştırma Soruları

Araştırmanın soruları şunlardır:

- ✓ Sağlık alanında kadın girişimciliğinde yapılan araştırmaların tarihsel süreçte gelişimi nedir?
- ✓ Sağlık alanında kadın girişimciliğinde yapılan araştırmaların yayın yılları nedir?
- ✓ Sağlık alanında kadın girişimciliğinde yapılan araştırmaların yazarlara göre dağılımı nedir?
- ✓ Sağlık alanında kadın girişimciliğinde yapılan araştırmalar hangi ülkelerde yapılmıştır?
- ✓ Sağlık alanında kadın girişimciliğinde yapılan araştırmaların indekslere göre dağılımı nedir?
- ✓ Sağlık alanında kadın girişimciliğinde yapılan araştırmaların atıf analizi nedir?
- ✓ Sağlık alanında kadın girişimciliğinde yapılan araştırmaların ortak yazar analizi nedir?
- ✓ Sağlık alanında kadın girişimciliğinde yapılan araştırmaların eşleşme analizleri nelerdir?
- ✓ Sağlık alanında kadın girişimciliğinde yapılan araştırmalarda yazarların en çok kullandığı ortak anahtar kelimeler nelerdir?

Araştırma Evreni ve Örneklemi

247 makale çalışması araştırmanın örneklemini oluşturmaktadır.

Araştırmada Verilerin Toplanması

Araştırmada veriler tüm alanlarda "women entrepreneurs in health" anahtar kelimesi taratılarak veriler elde edilmiştir.

Araştırmanın Etik Yönü

Araştırma bibliyometrik analiz programı ile yapıldığı için etik kurul onayına ihtiyaç duyulmamıştır.

Araştırmanın Kısıtlılıkları

Araştırmanın belirli bir anahtar kelimesi ile yapılmış olması araştırmanın kısıtlılığını oluşturmaktadır. Araştırma 1990-2023 yılları arasında yapılan çalışmalar ile oluşturulmuştur. Araştırmanın makale çalışmaları ile yapılması diğer bir kısıtlılığı oluşturmaktadır. Ancak konuyla ilgili makale yayınlarının güncel konuları içermesi nedeniyle araştırmada değerlendirmeye alınmıştır. Nicel yöntem olan bibliyometrik

analiz ile ulaşılan bulgularla ağ haritaları, küme sayıları, bağlantı sayıları, bağlantı güçlerine dayalı olarak yorumlamalar gerçekleştirilmiştir.

Araştırmanın birinci aşamasında veri tabanından ulaşılan bulgular açıklanmıştır. Sağlık alanında kadın girişimcilikle ilgili yayın yıllarına göre dağılıma Tablo 1'de bakıldığında, en yüksek yayın sayısının 2021 yılındadır. 2021 yılında yayın yüzdesi % 17, 409'dur. En düşük yayın ise 2004, 1997, 1996 ve 1990 yılarındadır. Yıllara göre sağlıkta kadın girişimciliğiyle ilgili yayınların artış göstermektedir. Bu bağlamda, yıllara göre araştırmaların daha çok artmasının konuya verilen önemden kaynaklandığı söylenebilmektedir. Veri tabanından elde edilen bulgular şunlardır;

BULGULAR VE TARTIŞMA

Tablo 1. Yayın Yıllarına, Yazarlara, Web of Science Kategorilerine ve Ülkelere Göre Dağılım

Yıllar	Yayın Sayısı	%
2023	32	12,955
2022	31	12,551
2021	43	17,409
2020	26	10,526
2019	17	6,883
2018	15	6,073
2017	10	4,049
2016	8	3,239
2015	13	5,263
2014	6	2,429
2013	5	2,024
2012	8	3,249
2011	5	2,024
2010	2	0,810
2009	4	1,619
2008	2	0,810
2007	3	1,215
2004	1	0,405
2003	4	1,619
2002	3	1,215
1998	4	1,619
1997	1	0,405
1996	1	0,405
1995	2	0,810
1990	1	0,405
Yazarlar	**Yayın Sayısı**	**%**
Manavi Gupta	3	1,215
Kamal Naser	3	1,215
Rana Nuseibeh	3	1,215
Ossi Rahkonen	3	1,215
Helene Ahl	2	0,810
Web of Science Kategorileri	**Yayın Sayısı**	**%**
İşletme	48	19,433
Kamu Çevre (İş Sağlığı)	34	13,765
Yönetim	31	12,551
Kadın Çalışmaları	17	6,883
Çevre Bilimleri	15	6,073

%: Yüzde

Tablo 1. (Devamı)

Ülke	Yayın Sayısı	%
Amerika Birleşik Devletleri	59	23,887
İngiltere	24	9,717
Hindistan	19	7,692
İsveç	17	6,883
Avustralya	16	6,478
Türkiye	1	0,405

%:Yüzde

Yazarlara göre dağılıma bakıldığında ilk 5 yazara göre, en çok yayın yapan yazar Manavi Gupta'dır. Konuyla ilgili 3 yayını bulunmaktadır. Yayın yüzdesi ise % 1,215'dir. Web of Science kategorilerine bakıldığında sağlıkta kadın girişimciliği alanında en çok işletme alanında 48 yayın vardır. Yayın yüzdesi % 19, 433'dür. İkinci sırada kamu çevresi iş sağlığı yer almaktadır. Kamu çevresi alanında yayın sayısı 34, yayın yüzdesi % 13,765'dir. İndekslere göre dağılıma bakıldığında en çok yayın yapılan indeks 136 yayın ve % 55,061 yayın yüzdesi ile Social Sciences Citation Index (SSCI)'dir. İkinci sırada 80 yayın ve % 32,389 yayın yüzdesi ile Emerging Sources Citation Index (ESCI) indeks yer almaktadır. Ülkelere göre dağılıma Tablo 5'te bakıldığında, Amerika Birleşik Devletleri 59 araştırma ve % 23.887 yayın yüzdesi ile birinci sıradadır. İkinci sırada ise 24 yayın ve %9.717 yayın yüzdesi ile İngiltere yer almaktadır. Türkiye ise sağlıkta kadın girişimciliği alanında yayınlarda 69.sırada yer almaktadır. Türkiye'de sağlık alanında kadın girişimciliği ile ilgili 1 yayın ve % 0, 405 yayın yüzdesi mevcuttur.

Araştırmanın ikinci aşamasında VOSviewer bibliyometrik görsel haritalama analiz programı ile analiz edilmiştir. Elde edilen bulgulara göre yapılan yazar atıfları analiz edildiğinde 683 veriden 19'u eşiği geçmiştir. Bunun sonucunda 3 küme 46 bağlantı ve 55 bağlantı gücü oluşmuştur.

VOSviewer bibliyometrik analiz programı bulguları şu şekildedir;

Ülke Atıf Analizi

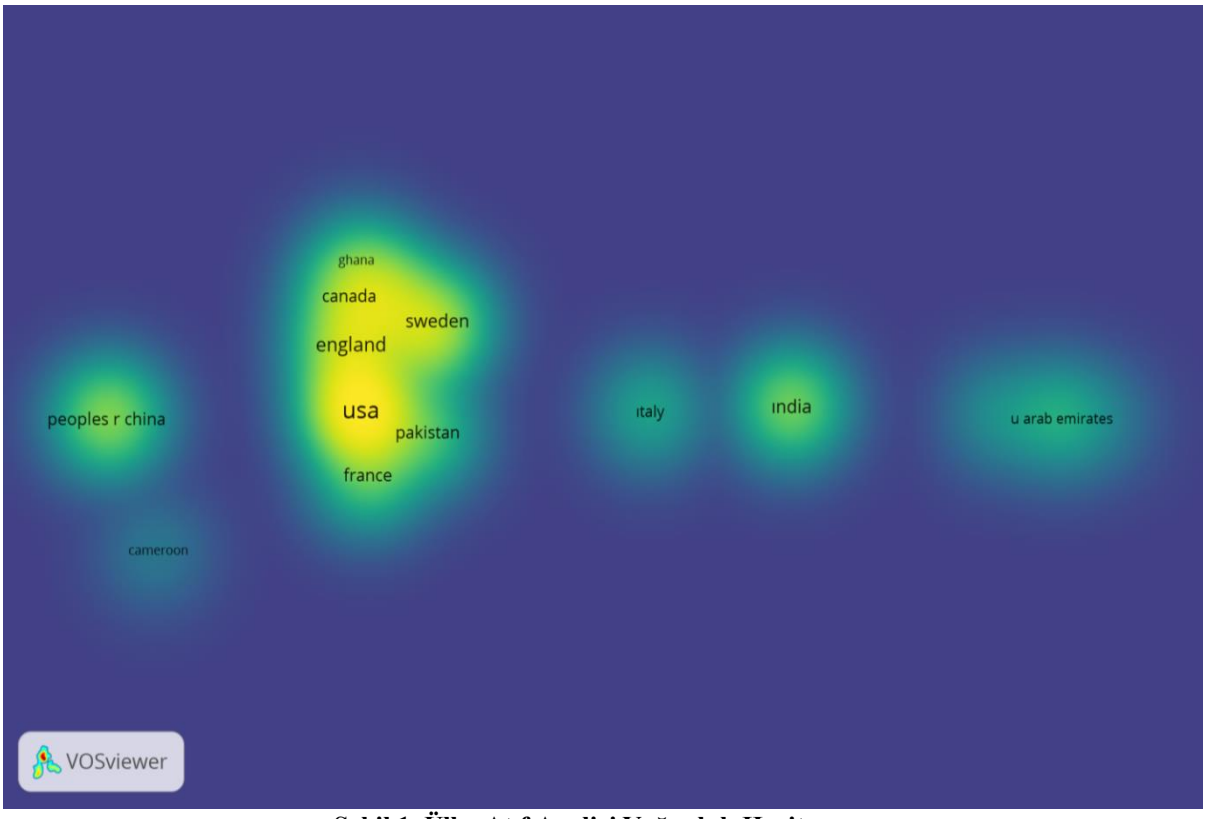
Ülke atıf analizi yoğunluk haritasına göre, 69 ülkeden 26 veri eşiği geçmiştir. Ülke atıf analizinde en verimli sonucu öğrenebilmek için en az 1 çalışma ve en az 1 atıfa sahip olan çalışmalar ile analiz yapılmıştır. Analiz sonuçlarına göre 7 küme, 42 bağlantı ve 52 bağlantı gücü oluşmuştur. En çok çalışmanın yapıldığı ülke Amerika Birleşik Devletleri'dir. Ülke atıf analizleri Şekil 1'de ülke atıf analizleri yoğunluk haritasında yer almaktadır.

Yazar Atıf Analizi

Yazar atıf analizlerine Tablo 6'da bakıldığında Kamal Naser 3 yayın, 15 bağlantı ve 114 bağlantı gücü ile ilk sırada yer almaktadır.

Kurum Atıf Analizi

Kurum atıf analizine göre 427 kurumdan 13'ü eşiği geçmiştir. Kurum atıf analizinde en verimli sonucu belirleyebilmek için en az 1 çalışma ve en az 1 atıfa sahip çalışmalar ile analiz yapılmıştır. Analiz sonucunda 3 küme 27 bağlantı ve 31 bağlantı gücü oluşmuştur. En çok atıf alan, çalışma yapan kurum ise National Health Service'dir. 3 yayın, 114 atıf ve 12 bağlantı gücü vardır. Yazar, kurum atıf analizleri Tablo 2'de yer almaktadır.



Şekil 1. Ülke Atıf Analizi Yoğunluk Haritası

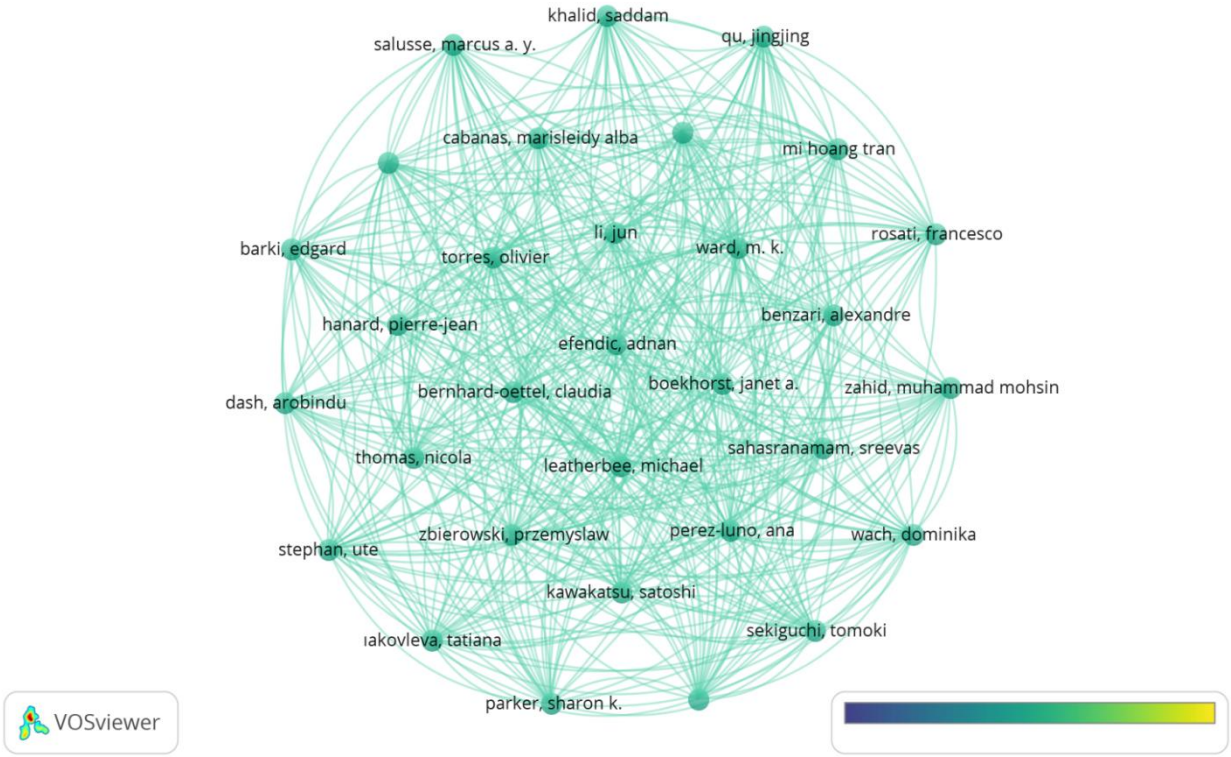
Tablo 2. Yazar, Kurum Atıf Analizi

Yazar	**Yayın Sayısı**	**Bağlantı Sayısı Bağlantı Gücü**
Kamal Naser	3	15/114
Rana Nuseibeh	3	15/114
Gry Agnete Alsos	1	10/161
Ulla Hytti	1	10/161
Elisabet Ljunggren	1	10/161
Kurum	**Yayın Sayısı**	**Bağlantı Sayısı Bağlantı Gücü**
National Health Service	3/114	12
Nordland Rest. Inst.	1/161	8
Nordland University	1/161	8
Turku University	2/162	8
Fairleigh Dickinson University	1/44	6

Ortak Yazar Analizi

Ortak yazar analizine göre 683 ortak yazardan 31'i eşiği geçmiştir. 1 küme 465 bağlantı oluşmuştur.

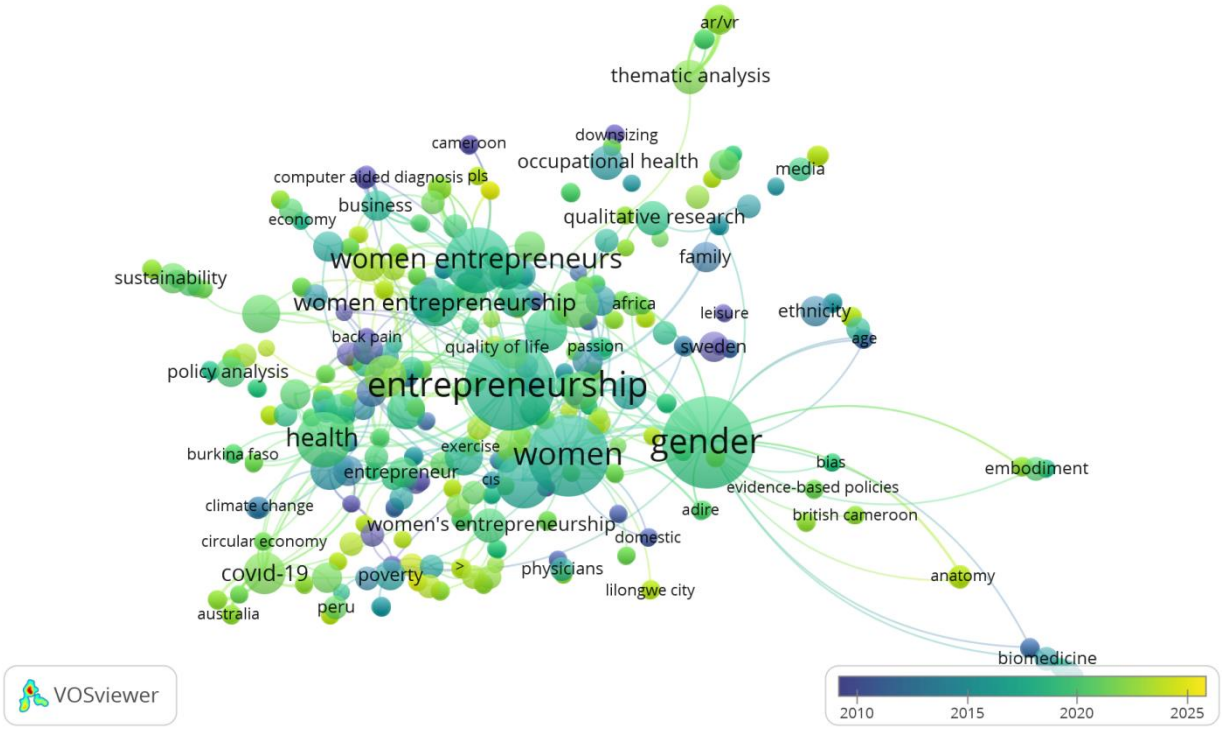
Ortak yazar analizinde birinci sırada yayın sayısına göre 3 yayın, 114 atıf ve 7 bağlantı gücü ile ilk sırada Kamal Naser yer almaktadır. Ortak yazar analizi ağ grafiği Şekil 2'de yer almaktadır.



Şekil 2. Ortak Yazar Analizi

Ortak Kelime Analizi

863 veriden 677'si eşiği geçmiştir. En az 1 kelime kullanma kriteri seçilerek sonuçlardan en etkili verim alınması amaçlanmıştır. Analiz sonucunda 47 küme, 2427 bağlantı ve 2505 bağlantı gücü oluşmuştur. En çok yazarlar tarafından kullanılan "entrepreneurship" anahtar kelimesidir. 122 bağlantı ve 144 bağlantı gücüne sahiptir. İkinci sırada yazarlar tarafından en çok kullanılan "gender" anahtar kelimesidir. 130 bağlantı ve 142 bağlantı gücüne sahiptir. Ortak kelime analizleri Şekil 3'te yer almaktadır.



Şekil 3. Ortak Kelime Analizi (Tüm Yazarlar Bağlamında)

SONUÇ VE ÖNERİLER

Sağlıkta kadın girişimciliği alanıyla ilgili ulaşılan bulgulara göre ilk yayın 1990 yılında yayınlanmıştır. En yüksek yayın sayısı ise 2021 yılındadır. Konuyla ilgili yıllara göre yayın sayılarında artış olmakta ve konuyla ilgili araştırmacıların sayısı da artmaktadır.

Konuyla ilgili en çok yayın yapan yazar Manavi Gupta'dır. 3 yayını bulunmaktadır. Web of Science (WoS) kategorilerine göre sağlıkta kadın girşimcilik ile ilgili çalışmaların yapıldığı alan en yüksek işletme alanındadır. İndesklere göre dağılıma bakıldığında Social Sciences Citation Index (SSCI) 136 yayın ile ilk sıradadır. En çok yayın yapan ülke ise Amerika Birleşik Devletleri'dir. Yazar atıf analizine göre en çok atıf alan yazar Kamal Naser'dir. Ülke atıf analizi yoğunluk haritasına göre en çok yayın yapan ülke Amerika Birleşik Devletleri'dir. Kurum atıf analizine göre National Health Service kurumu en çok yayın yapan kurumdur. Ortak yazar analizinde de en çok yayın yapan yazar Kamal Naser'dir. Yazarlar tarafından en çok kulllanılan "entrepreneurship" ortak kelimesidir. Araştırma sonuçları makale yayınları kapsamında sağlıkta kadın girişimciliğiyle ilgili çalışmaların olduğunu ve araştırılan bir konu olduğunu açıklamaktadır. Araştırmaların 1990-2023 yılları arasında aralıklı da olsa devam etmesi kadın girişimciliğinin sağlık alanında da ilgilenilen, sonuçları merak edilen bir konu olduğu sonucuna ulaşılabilmektedir.

KAYNAKLAR

1. Ecevit, Y. (1993). "Aile, Kadın ve Devlet İlişkilerinin Değerlendirilmesinde Klasik ve Yeni Yaklaşımlar". Kadın Araştırmaları Dergisi, (1), 9-34.

2. Halaç, D. S., ve Meşe, G (2021). "Toplumsal Cinsiyet Bakış Açısından Türkiye'de Kadın Girişimciliğinin Durumu". Dumlupınar Üniversitesi Sosyal Bilimler Dergisi, (68), 255-270.

3. Soysal, A. (2010). "Türkiye'de Kadın Girişimciler: Engeller Ve Fırsatlar Bağlaminda Bir Değerlendirme". Ankara Üniversitesi SBF Dergisi, 65(01), 83-114.

4. Coughlin, J. H., and Thomas, A. R. (2002). The Rise of Women Entrepreneurs: People, Processes, and Global Trends. Westport: Quorum Books.

5. Gül, S. S., ve Altındal, Y. (2016). "Türkiye'de Kadın Girişimciliğinin Serüveni: Başarı Mümkün Mü?". Süleyman Demirel Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, 21(4), 1361-1377.

6. Yadav, V., and Unni, J. (2016). "Women entrepreneurship: Research Review and Future Directions". Journal of Global Entrepreneurship Research, 6, 1-18.

7. Kutanis, R. O., and Bayraktaroglu, S. (2003). "Female Entrepreneurs: Social Feminist Insights for Overcoming the Barriers". Stream19: Gender Perspectives and Management. Sakarya University.

8. Nişancı, Z. N., ve Ödemiş, G. (2022). "Kadın Girişimcilerin İş-Yaşam Dengesinin Demografik Faktörler Açısından Değerlendirilmesi Üzerine Bir Araştırma". Journal of Business Innovation and Governance, 5(1), 44-72.

9. Vasilić, N., Popović-Pantić, S., and Semenčenko, D. (2020). "Women Entrepreneurship in the Time of COVID-19 Pandemic". Jwee, (3-4), 23-40.

10. Baysal, H. (2020). "Türkiye'de Kadın Girişimci Yazını (1996-2020): Pandemi Öncesi Görünüm, Pandemi Sonrası için Yol Gösterici Olabilir mi?". International Journal of Entrepreneurship and Management Inquiries, 4(Özel Sayı 1), 50-71**.**

11. Lawani, S. M. (1981). "Bibliometrics: Its Theoretical Foundations, Methods and Applications." Libri, 31(Jahresband), 294-315.

12. Şeref, İ., ve Karagöz, B. (2019). "Türkçe Eğitimi Akademik Alanına İlişkin Bir Değerlendirme: Web of Science Veri Tabanına Dayalı Bibliyometrik İnceleme". Journal of Language Education and Research, 5(2), 213-231.

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Fizyoterapi ve Rehabilitasyon Bölümü Öğrencilerinde Sosyal Medya Kullanımı ile Akademik Başarı Arasındaki İlişkinin İncelenmesi

Examining the Relationship Between Social Media Use and Academic Achievement in Physiotherapy and Rehabilitation Department Students

Gülsüm Eda İNAN[1], Ferdi BAŞKURT[2], Tahir KESKİN[3]

ÖZ

Bu çalışmanın amacı, fizyoterapi ve rehabilitasyon bölümü öğrencilerinin sosyal medya kullanım alışkanlıklarının, motivasyonlarının belirlenmesi ve akademik başarıya olan etkisinin araştırılmasıdır. Araştırmanın evrenini 321 Fizyoterapi ve Rehabilitasyon öğrencisi oluşturmuştur. Veri toplama aracı olarak kişisel bilgi formu ve üniversite öğrencilerinin sosyal medya kullanım alışkanlıkları ve motivasyonları ölçeği kullanılmıştır. Bu çalışma yaş ortalaması 20,44±2,57 yıl olan 256 (%79,8) kadın, 65 (%20,2) erkek toplam 321 öğrenci ile gerçekleştirilmiştir. Sosyal medya kullanım alışkanlıkları ve motivasyonlarının cinsiyete, sınıf düzeyine ve sosyal medya kullanım sıklığına göre değişmediği tespit edilmiştir (p>0,05). Sosyal medya kullanım alışkanlıkları ve motivasyonları ölçeği toplam puanı (r=-0,126, p= 0,046) ve sosyal etkileşim ve sosyal medya motivasyon alt ölçeği (r=-0,158, p= 0,017) ile genel not ortalaması arasında negatif yönlü düşük düzeyde ilişki olduğu belirlenmiştir. Çalışmamızın sonuçlarına göre sosyal medya kullanımı akademik başarıyı olumsuz yönde etkilemektedir. Sosyal medya kullanım alışkanlıkları ve motivasyonları, cinsiyete, sınıf düzeyine ve kullanım sıklığına göre değişmemektedir. Yüksek sosyal medya kullanım süreleri göz önüne alındığında, bu konuda gerekli önlemler alınmalı ve öğrencilerin sosyal medyayı faydalı bir şekilde kullanmasına yönelik çalışmalar yapılmalıdır. Ayrıca sosyal medyanın "ne kadar" kullanıldığı kadar, "niçin" ve "ne amaçla" kullanıldığının da sorgulanması gerekmektedir.

Anahtar Kelimeler: Akademik başarı, Fizyoterapi ve rehabilitasyon öğrencileri, Motivasyon, Sosyal medya

ABSTRACT

The aim of this study is to determine the social media usage habits and motivations of physiotherapy and rehabilitation department students and to determine their effect on academic achievement. The population of the study consisted of 321 physiotherapy and rehabilitation students. Personal information forms and the scale of social media usage habits and motivations of university students were used as data collection tools. This study was carried out with a total of 321 students, 256 (79.8%) female and 65 (20.2%) male, with an average age of 20.44±2.57 years. It was determined that social media usage habits and motivations did not vary according to gender, grade level, and frequency of social media use (p>0.05). There was a low negative correlation between the total score of the social media usage habits and motivations scale (r=-0.126, p= 0.046) and the social interaction and social media motivation subscale (r=-0.158,p= 0.017) with the grade point average. According to the results of our study, social media use negatively affects academic achievement. Social media usage habits and motivations did not vary according to gender, grade level and frequency of use. In light of the considerable time spent on social media, it is imperative to implement necessary precautions and pursue research to facilitate beneficial use of social media by students. In addition, it is necessary to question not only "how much" social media is used but also "how" and "for what purpose" it is used.

Keywords: Academic achievement, Motivation, Physiotherapy and rehabilitation students, Social media

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[1]Yüksek Lisans Öğrencisi, Gülsüm Eda İNAN, Süleyman Demirel Üniversitesi Sağlık Bilimleri Enstitüsü Fizik Tedavi ve Rehabilitasyon AD. Isparta, TÜRKİYE,edainan567@gmail.com, ORCİD: 0000-0002-5009-2877
[2]Prof. Dr. Ferdi BAŞKURT, Fizyoterapi ve Rehabilitasyon, Süleyman Demirel Üniversitesi Sağlık Bilimleri Fakültesi Fizyoterapi ve Rehabilitasyon Bölümü, ferdibaskurt77@gmail.com, ORCİD: 0000-0002-8997-4172
[3]Arş. Gör. Dr., Tahir KESKİN, Fizyoterapi ve Rehabilitasyon, Bingöl Üniversitesi Fizyoterapi ve Rehabilitasyon Fakültesi. tahirkeskin2323@gmail.com, ORCID: 0000-0002-9237-3300
Bu çalışma, 7-9 Mart 2024 tarihinde Burdur'da düzenlenen 7. Uluslararası Sağlık Bilimleri ve Yaşam Kongresi'nde sözel bildiri olarak sunulmuştur.
İletişim / Corresponding Author: Yazar Adı SOYADI: Tahir KESKİN
e-posta/e-mail: Yazar e-mail adresi: tahirkeskin2323@gmail.com
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GİRİŞ

Sosyal medya, bireylerin sınırlı bir sistem içerisinde bir profil oluşturmalarına, paylaştıkları içerikler aracılığıyla diğer kullanıcılarla iletişim kurmalarına, sistem içinde başkaları tarafından paylaşılan içerikleri görüntülemelerine ve incelemelerine olanak tanıyan internet tabanlı uygulamalar grubudur[1]. Belirli bir uygulamada aranan ve elde edilen doyumlar olarak kabul edilen kullanım motivasyonları, o uygulamanın kullanım seçimini, sıklığını ve yoğunluğunu etkilemektedir[2]. Kullanımlar ve doyumlar teorik yaklaşımı, belirli bir sosyal medya uygulamasının kullanıcı motivasyonlarını ve memnuniyetlerini değerlendirmek için geliştirilmiştir. Kullanımlar ve doyumlar teorik yaklaşımına göre sosyal medya kullanımı hedefe yönelik olabilir veya motive edilebilir. Kullanıcılar sosyal medyayı kendi ihtiyaçlarını ve arzularını tatmin etmek için kullanabilirler. İlave olarak bu yaklaşım sosyal ve psikolojik faktörlerin sosyal medya kullanımında etkili olduğunu ve sosyal medya kullanımının kişilerarası ilişkiler ve iletişimle de ilişkili olduğunu ortaya koymaktadır[3,4].

Sosyal medya kullanıcılarının bu uygulamaları kullanma amaçları ve davranışları birbirinden farklılık göstermektedir[5]. Sosyal medya kullanımının temel olarak nasıl, kim tarafından ve hangi amaçlarla kullanıldığına bağlı olarak avantajları ve sınırlılıkları bulunmaktadır ve bu yüzden sosyal medya kullanım süresi kadar "nasıl, niçin ve ne amaçla" kullanıldığı da önemlidir[6]. Sosyal medya kullanıcılar tarafından sosyal etkileşim, bilgi arama, zaman geçirme, eğlence, dinlenme, günlük hayattaki problemlerden kaçış ve ekonomik fayda sağlama gibi birçok farklı amaçlarla kullanılmaktadır[7].

Teknoloji çağını yaşadığımız günümüz dünyasında gençler dijital çağın tüm araçlarıyla çevrelenmiştir ve zamanlarının büyük çoğunluğunu bu araçları kullanarak geçirmektedir. Modern teknoloji ile birlikte gelişen mobil cihazların, insanların istedikleri zaman ve mekânda sosyal medya hesaplarına giriş yapabilmeleri kolaylığını sağlamasıyla gençlerin hayatında Facebook, YouTube, X, Tik Tok ve Instagram gibi sosyal medya siteleri önemli etkileşim araçlarından biri haline gelmiştir[8]. Sosyal medya siteleri sohbet etmek, sosyalleşmek, paylaşımda bulunmak vb. amaçlarla kullanıldığı gibi; akademik başarıya yönelik bilgilenme ve öğrenme gibi amaçlarla da kullanılmaktadır[9].

Öğrencilerin akademik başarıya ulaşmak için gerekli çalışma becerilerine ve öğrenme stratejilerine sahip olması gerekmektedir. Akademik başarı ile ilişkili stratejik davranış ve tutumlar öğrencilerin sosyal medya kullanımını da etkilemektedir[10]. Bu davranış ve tutumlar nedeniyle öğrenciler sosyal medya sitelerini eğlence, boş zamanını değerlendirme ve sosyal etkileşim gibi çeşitli amaçlar için kullanmanın yanı sıra; fikir paylaşımı, bilgi edinme, ders bilgilerine erişim, grup çalışması düzenleme, geri bildirim alma ve eğitmenlerle etkileşim kurma gibi amaçlarla da kullanmaktadır[11]. Sosyal medyayı eğitim amacıyla kullanan kişiler kariyerlerinde, eğitim hayatlarında ve toplumsal konumlarında ilerleme açısından avantaj sağlamaktadır[12].

Akademik başarı ile sosyal medya kullanımı arasındaki ilişkinin daha iyi anlaşılması ve sosyal medya kullanım özelliklerinin belirlenmesi kullanıcıların kariyerleri ve eğitim hayatlarıyla ilgili yapılacak değerlendirmelere açısından yol gösterici olacaktır. Bu nedenle bu çalışma, Fizyoterapi ve Rehabilitasyon bölümü öğrencilerinin sosyal medyayı nasıl, ne amaçla ve ne düzeyde kullanıldığı, sosyal medya kullanımını etkileyen alışkanlıkları, motivasyonları ve bunların öğrencilerin akademik başarılarına olan etkisini incelemeyi amaçlamıştır.

MATERYAL VE METOT

Kesitsel bir çalışma olarak planlanan araştırmanın evreni, 2023–2024 akademik yılı güz döneminde Süleyman Demirel Üniversitesi Sağlık Bilimleri Fakültesi

Fizyoterapi ve Rehabilitasyon programına kayıtlı 398 lisans öğrencisinden oluşmaktadır. Araştırma kapsamında bütün evrene ulaşılması hedeflenmiştir. Araştırmanın örneklemini, çalışmaya katılmaya gönüllü olan ve veri toplama araçlarının tamamını dolduran 321 gönüllü Fizyoterapi ve Rehabilitasyon bölümü lisans öğrencisi oluşturmuştur.

Çalışma öncesinde Süleyman Demirel Üniversitesi Sağlık Bilimleri Etik Kurulu'ndan etik onay alınmıştır (07.04.2023, Sayı: 65/11). Öğrencilere çalışmanın amacı anlatılmış ve onamları alınmıştır. Bu çalışma, Helsinki Deklarasyonu Prensipleri'ne uygun bir biçimde yürütülmüştür.

Veri Toplama Araçları

Veri toplama aracı olarak araştırmacılar tarafından literatür doğrultusunda hazırlanmış Kişisel Bilgi Formu ve Üniversite Öğrencilerinin Sosyal Medya Kullanım Alışkanlıkları ve Motivasyonları Ölçeği kullanılmıştır. Kişisel bilgi formu öğrencilerin demografik bilgilerini, not ortalamalarını ve sosyal medya kullanım özelliklerini içermektedir. Bu kapsamda son dönem not ortalaması, genel not ortalaması, sosyal medya hesabı varlığı, günlük internet ve sosyal medya kullanım süresi, sosyal medya kullanım geçmişi, sık kullanılan sosyal medya hesabı gibi değişkenler sorgulanmıştır.

Üniversite Öğrencilerinin Sosyal Medya Kullanım Alışkanlıkları ve Motivasyonları Ölçeği

İnternet kullanım motivasyonlarını saptamak amacıyla Balcı ve Ayhan (2007) tarafından hazırlanmıştır. Gülsünler ve İçirgin (2018) tarafından ölçek maddelerinde yer alan internet ifadeleri sosyal medya olarak çevrilerek son halini almıştır[13,14]. Sosyal Kaçış Motivasyonu (15 soru), Bilgilenme motivasyonu (7 soru), Boş Zamanları Değerlendirme Motivasyonu (6 soru), Ekonomik Fayda Motivasyonu (4 soru), Sosyal Etkileşim ve Sosyal Medya Motivasyonu (7 soru) ve Eğlence Motivasyonu (3 soru) bölümleri olmak üzere toplamda 6 bölümden ve 42 sorudan oluşmaktadır. Cronbach alfa değeri 0,81 olarak bulunmuştur[14]. Ölçekten alınabilecek puanlar 42-220 arasında olup, yüksek puanlar yüksek motivasyon düzeylerini göstermektedir.

İstatistiksel Analiz

Çalışmadaki verilerin istatistiksel analizleri IBM SPSS Statistics 20.0 programı ile yapılmıştır. Öğrencilerin sosyodemografik özellikleri, not ortalamaları ve sosyal medya kullanım özellikleri ortalama, standart sapmalar, yüzde ve oranlarla tanımlanmıştır. Verilerin dağılımı Kolmogorov-Smirnov testi ile değerlendirilmiştir. Test sonucunda verilerin normal dağılım şartlarını sağladığı saptanmıştır. Sosyal medya kullanım alışkanlıkları ve motivasyonlarının cinsiyete göre değişimi bağımsız gruplarda t testi ile; sınıf düzeyine ve sosyal medya kullanım sıklığına göre değişimi ise One-Way Anova testi ile değerlendirilmiştir. Öğrencilerin genel not ortalaması ve son dönem not ortalaması ile sosyal medya kullanım alışkanlıkları ve motivasyonları ilişkisi Pearson Korelasyon analizi ile değerlendirilmiştir. İstatistiksel anlamlılık düzeyi $p<0,05$ olarak kabul edilmiştir.

BULGULAR VE TARTIŞMA

Fizyoterapi öğrencilerinde sosyal medya kullanımı ile akademik başarı arasındaki ilişkiyi araştırdığımız bu çalışmaya yaş ortalaması 20,44±2,57 yıl olan 256 (%79,8) kadın, 65 (%20,2) erkek toplam 321 öğrenci katılmıştır. Hem 1. hem de 2. Sınıfta öğrenim gören öğrenci sayısının 82 (%25,5) olduğu, 3. sınıfta öğrenim gören 78 (%24,3) ve 4. sınıfta öğrenim gören 79 (%24,6) öğrenci olduğu belirlenmiştir. Öğrencilerin ikamet yeri olarak büyük oranda ilçelerde yaşadığı (%27,7) ve büyük bir bölümünün (%84,1) orta düzeyde gelire sahip oldukları belirlenmiştir.

Öğrencilerin genel not ortalamalarının 2,60±0,45, son dönem not ortalamalarının ise 2,88±0,48 olduğu tespit edilmiştir Öğrencilerin %94,4 gibi büyük çoğunluğunun sosyal medya hesabının olduğu, %53,9'unun günlük 3-5 saat arasında internet kullandığı,

bu sürenin 1-3 saatinin (%48,6) sosyal medya kullanımı ile geçtiği, %38,3'ünün 7 yıldan uzun süredir sosyal medya hesabının olduğu belirlenmiştir. Öğrencilere ait not ortalamaları ve sosyal medya kullanımı ile ilgili değişkenler Tablo 1'de verilmiştir.

Tablo 1. Öğrencilerin Not Ortalamaları ve Sosyal Medya Kullanım Özellikleri

		n	%	
Son Dönem Not Ortalaması				2,88±0,48
Genel Not Ortalaması				2,60±0,45
Sosyal medya hesabınız var mı?	Evet	303	94,4	
	Hayır	18	5,6	
Günlük internet kullanım süresi	0-3 saat	79	24,6	
	3-5 saat	173	53,9	
	5 saat üzeri	69	21,5	
Kullanılan Sosyal Medya Sitesi	Facebook	67	20,9	
	WhatsApp	308	96	
	Instagram	303	94,4	
	Twitter-X	166	51,7	
	Tik Tok	76	23,7	
	Youtube	276	86	
Sosyal Medya Ortalama Kullanım Süresi	0-1 saat	26	8,1	
	1-3saat	156	48,6	
	3-5saat	112	34,9	
	5saat üzeri	27	8,4	
Sosyal Medyanın En Sık Kullanıldığı Saatler	06.00-12.00	5	1,6	
	12.00-18.00	27	8,4	
	18.00-00.00	276	86,0	
	00.00-06.00	13	4,0	
Sosyal Medya Kullanım Geçmişi	1 yıldan az	9	2,8	
	1-3 yıl	46	14,3	
	4-6 yıl	143	44,5	
	7 yıldan fazla	123	38,3	

n:Kişi sayısı, X±SS: Ortalama±Standart Sapma

Öğrencilerin sosyal medya kullanım alışkanlıkları ve motivasyonlarının cinsiyete göre değişimi incelendiğinde, puanların cinsiyete göre istatistiksel olarak anlamlı düzeyde değişmediği belirlenmiştir (p>0,05) (Tablo 2).

Tablo 2. Sosyal Medya Kullanım Alışkanlıkları ve Motivasyonlarının Cinsiyete Göre Değişimi

	Cinsiyet	X±SS	p
Sosyal Kaçış Motivasyonu	Kadın	44,89±11,11	0,588
	Erkek	44,07±9,44	
Bilgilenme Motivasyonu	Kadın	27,47±4,65	0,320
	Erkek	26,83±4,59	
Boş Zamanları Değerlendirme Motivasyonu	Kadın	23,46±4,32	0,596
	Erkek	23,78±4,07	
Ekonomik Fayda Motivasyonu	Kadın	14,82±3,68	0,331
	Erkek	14,33±3,18	
Sosyal Etkileşim ve Sosyal Medya Motivasyonu	Kadın	26,75±5,73	0,634
	Erkek	26,36±5,81	
Eğlence Motivasyonu	Kadın	11,22±2,77	0,363
	Erkek	10,87±2,55	
Toplam Puan	Kadın	148,62±22,20	0,434
	Erkek	146,27±18,94	

X±SS: Ortalama ± Standart Sapma. p: Bağımsız gruplarda t testi, p<0,05 düzeyinde anlamlıdır.

Anket puanlarının sınıf düzeyine göre değişimi incelendiğinde, öğrencilerin sosyal medya kullanım alışkanlıkları ve motivasyonlarının sınıf düzeylerine göre istatistiksel olarak anlamlı düzeyde değişmediği tespit edilmiştir (p>0,05) (Tablo 3).

Tablo 3. Sosyal Medya Kullanım Alışkanlıkları ve Motivasyonlarının Sınıf Düzeyine Göre Değişimi

	Sınıf	X±SS	p
Sosyal Kaçış Motivasyonu	1	44,96±11,05	0,838
	2	44,15±11,62	
	3	44,25±10,14	
	4	45,53±10,35	
Bilgilenme Motivasyonu	1	27,82±5,05	0,205
	2	26,56±5,10	
	3	27,08±4,39	
	4	27,89±3,82	
Boş Zamanları Değerlendirme Motivasyonu	1	24,00±4,21	0,560
	2	23,25±4,11	
	3	23,15±4,23	
	4	23,70±4,55	
Ekonomik Fayda Motivasyonu	1	14,79±3,47	0,429
	2	14,18±3,84	
	3	15,07±3,34	
	4	14,87±3,68	
Sosyal Etkileşim ve Sosyal Medya Motivasyonu	1	26,89±6,55	0,928
	2	26,32±5,22	
	3	26,82±5,74	
	4	26,65±5,45	
Eğlence Motivasyonu	1	11,34±2,70	0,543
	2	10,85±3,04	
	3	11,02±2,47	
	4	11,39±2,65	
Toplam Puan	1	149,81±20,67	0,461
	2	145,34±25,04	
	3	147,42±21,20	
	4	150,06±18,87	

X±SS: Ortalama ± Standart Sapma. p= One-Way Anova testi, p<0,05 düzeyinde anlamlıdır.

Sosyal Medya Kullanım Alışkanlıkları ve Motivasyonları Ölçeği ortalama puanlarının sosyal medya kullanım sıklığına göre değişimi incelendiğinde, ölçek puan ortalamalarının sosyal medya kullanım sıklığına göre istatistiksel olarak anlamlı düzeyde değişmediği belirlenmiştir (p>0,05) (Tablo 4).

Tablo 4. Sosyal Medya Kullanım Alışkanlıkları ve Motivasyonlarının Sosyal Medya Kullanım Sıklığına Göre Değişimi

	Sosyal Medya Ortalama Kullanım Süresi	X±SS	p
Sosyal Kaçış Motivasyonu	0-1 saat	44,57±10,25	0,986
	1-3saat	44,53±10,05	
	3-5saat	45,03±12,17	
	5saat üzeri	44,70±9,71	
Bilgilenme Motivasyonu	0-1 saat	28,73±3,35	0,470
	1-3saat	27,24±4,65	
	3-5saat	27,18±4,92	
	5saat üzeri	27,22±4,44	
Boş Zamanları Değerlendirme Motivasyonu	0-1 saat	24,19±3,70	0,219
	1-3saat	23,02±4,59	
	3-5saat	23,91±4,04	
	5saat üzeri	24,22±3,54	
Ekonomik Fayda Motivasyonu	0-1 saat	14,73±2,97	0,712
	1-3saat	14,60±3,81	
	3-5saat	14,71±3,58	
	5saat üzeri	15,48±2,54	
Sosyal Etkileşim ve Sosyal Medya Motivasyonu	0-1 saat	26,76±5,78	0,788
	1-3saat	26,39±5,29	
	3-5saat	26,83±6,55	
	5saat üzeri	27,51±4,72	
Eğlence Motivasyonu	0-1 saat	10,61±2,33	0,660
	1-3saat	11,15±2,83	
	3-5saat	11,17±2,82	
	5saat üzeri	11,55±1,98	
Toplam Puan	0-1 saat	149,61±21,28	0,778
	1-3saat	146,94±20,75	
	3-5saat	148,87±23,51	
	5saat üzeri	150,70±18,67	

X±SS: Ortalama±Standart Sapma. p= One-Way Anova testi, p<0,05 düzeyinde anlamlıdır.

Öğrencilerin genel not ortalaması ve son dönem not ortalaması ile sosyal medya kullanım alışkanlıkları ve motivasyonları ilişkisi incelendiğinde; Sosyal Etkileşim ve Sosyal Medya Motivasyon alt ölçeği (r=-0,158, p= 0,017) ve ölçek toplam puanı (r=-0,126, p= 0,046) ile genel not ortalaması arasında negatif yönlü düşük düzeyde ilişki olduğu belirlenmiştir. Eğlence Motivasyonu haricindeki diğer alt ölçek puanları ile not ortalamaları arasında istatistiksel olarak anlamlı olmayan negatif yönlü bir ilişki olduğu tespit edilmiştir (p>0,05) (Tablo 5).

Tablo 5. Not Ortalaması ile Sosyal Medya Kullanım Alışkanlıkları ve Motivasyonları İlişkisi

		SDNO	GNO
Sosyal Kaçış Motivasyonu	r	-0,131	-0,092
	p	0,050	0,170
Bilgilenme Motivasyonu	r	-0,047	-0,009
	p	0,484	0,894
Boş Zamanları Değerlendirme Motivasyonu	r	-0,042	-0,100
	p	0,531	0,133
Ekonomik Fayda Motivasyonu	r	-0,040	-0,058
	p	0,546	0,385
Sosyal Etkileşim ve Sosyal Medya Motivasyonu	r	-0,084	**-0,158***
	p	0,207	**0,017**
Eğlence Motivasyonu	r	0,007	0,004
	p	0,921	0,956
Toplam Puan	r	-0,107	**-0,126***
	p	0,108	**0,046**

*SDNO: Son dönem not ortalaması, GNO: Genel not ortalaması. p: pearson korelasyon analizi, *: p<0,05 düzeyinde anlamlıdır.*

Fizyoterapi ve Rehabilitasyon Bölümü öğrencilerinin akademik başarısı ve sosyal medya motivasyonları ilişkisini araştırdığımız çalışmanın sonucuna göre, öğrencilerin sosyal medya kullanım alışkanlıkları ve motivasyonlarının sınıf düzeyine, sosyal medya kullanım süresine ve cinsiyete göre değişmediği belirlenmiştir. Genel not ortalaması ile sosyal medya kullanım alışkanlıkları ve motivasyonları ölçeğinin sosyal etkileşim ve sosyal medya motivasyon alt ölçeği ve ölçek toplam puanı arasında negatif yönlü ilişki olduğu tespit edilmiştir.

Modern teknolojinin sağladığı imkânlar sayesinde istedikleri zaman ve mekânda sosyal medya hesaplarına giriş yapabilmeleri, gençlerin hayatında sosyal medyanın önemli bir yer edinmesine neden olmaktadır. Sosyal medya hesaplarının kullandığı yapay zeka algoritmalarıyla, kişilerin beğenilerine yönelik içerikler sunması sosyal medya kullanımının çok yüksek düzeylere ulaşmasına neden olmuştur[2]. Nitekim bu çalışmaya katılan öğrencilerin %94,4 gibi büyük çoğunluğunun sosyal medya hesabının olduğu tespit edilmiştir. En çok kullanılan iki sosyal medya sitesinin sırasıyla WhatsApp ve Instagram olduğu belirlenmiştir. Küçükkaya ve ark. tarafından hemşirelik bölümü öğrencileriyle yapılan çalışmada öğrencilerin %93,1'inin sosyal medya kullandığı ve WhatsApp ile Instagram'ın en çok kullanılan sosyal medya siteleri olduğu belirtilmiştir[15].Benzer sonuçlar Himmetoğlu ve ark. tarafından yapılan çalışmada da elde edilmiştir. En çok kullanılan sosyal medya sitelerinin WhatsApp (%86,31) ve Instagram (%68,06) olduğu belirlenmiştir[16]. WhatsApp uygulamasının aynı zamanda kişiler arası iletişim amacıyla kullanıldığı göz önüne alındığında, çalışmamızdaki sosyal medyanın en çok iletişim ve eğlence motivasyonuyla kullanılması çıktısı; Chandrasena ve ark. çalışmasıyla da tutarlılık göstermektedir[17].

Sosyal medya sitelerinin kullanım yelpazesi oldukça geniştir. Eğlence, iletişim, bilgi edinme vb. gibi birçok amaçla kullanılan sosyal medya, kullanım amacına göre farklı çıktılar sunabilmektedir[14]. El Bialy ve arkadaşları sağlık bilimleri öğrencileriyle yapmış oldukları çalışmada, öğrencilerin sosyal medya sitelerini eğitim amaçlı olmaktan çok arkadaşlarıyla sohbet etmek için kullandıklarını öne sürmüşlerdir[9]. Shafiq ve ark.'nın çalışmasında ise sosyal medya sitelerinin bilgi paylaşımı, çalışma materyalleri, makaleler, konuşmalar vb. gibi akademik amaçlarla kullanıldığında akademik başarıyı olumlu etkilediği belirtilmiştir[19]. Bu çalışmada ise öğrencilerin sosyal medya kullanım alışkanlıkları ve motivasyonları ile akademik başarı arasında negatif bir ilişki olduğu belirlenmiştir. Dolayısıyla kişilerin sosyal medyayı kullanım amacı akademik başarıyı etkilemektedir. Sosyal iletişimdeki amaç sohbet etmek, günün değerlendirmesi yapmak, eğlenceli içerikler paylaşmak vb.

olduğunda akademik başarı olumsuz etkilenirken; amaç çalışma materyalleri veya bilgi paylaşımı, makale içerikleri ve bunlar üzerine fikir alışverişi yapmak olduğunda akademik başarıyı olumlu etkilendiği söylenebilir.

Geçtiğimiz yıllarda yaşadığımız pandemi, kişilerin hayatlarını birçok açıdan etkilemiştir. Özellikle evde kalma sürelerinin artması kişilerin internet kullanımının da artmasına neden olmuştur[19]. Sert ve ark. tarafından yapılan çalışma, pandemi sürecinde gençlerin internette geçirdikleri sürenin arttığını, gençlerin büyük bir bölümünün günlerinin 1-3 saatini sosyal medyada geçirdiklerini ve %70,8'inin pandemi öncesine oranla sosyal medya kullanım süresinin arttığını göstermiştir[19]. Chandrasena ve ark.'nın çalışmasında öğrencilerinin çoğunluğunun günde 2-5 saatini sosyal medya sitelerinde geçirdikleri tespit edilmiştir[17]. Bizim çalışmamızda ise öğrencilerin büyük çoğunluğunun günlük 3-5 saat arasında internet kullandığı, bu sürenin 1-3 saatinin sosyal medya kullanımı ile geçtiği ve sosyal medyada geçirilen sürenin akademik başarıları üzerinde anlamlı bir etkisi olmadığı belirlenmiştir. Literatürde bu konuyla ilgili olarak farklı sonuçlara ulaşılmıştır. Çalışmamızla uyumlu olarak Al Faris ve ark. tıp fakültesi öğrencilerinin sosyal medya kullanımının kalıplarını, nedenlerini ve bunların akademik performansla ilişkisini araştırmak amacıyla yaptıkları çalışmada öğrencilerin çoğunluğunun günde 1-4 saat arası zamanlarını sosyal medyada geçirdikleri ve bu sürenin akademik başarı ile ilişki olmadığı sonucuna ulaşmışlarıdır[20]. Barton ve ark. ise bu sonucun aksine sosyal medya kullanımının artmasının not ortalamasını düşürdüğünü belirtmiştir[10]. Çalışmalar arasındaki bu farklılığın, farklı kullanım motivasyonları olan ve farklı kültürlerde öğrenciler ile yapılmasından kaynaklandığı düşünülmektedir. Ayrıca bu çalışmalar sosyal medyanın "ne kadar" kullanıldığından ziyade "nasıl" kullanıldığının da önemli bir kritik olduğu, kullanım miktarının tek başına belirleyici olmadığını göstermektedir.

Radmard ve ark. tarafından yürütülen, sağlık bilimleri fakültesi öğrencilerinin de yer aldığı çalışmada, katılımcıların sosyal medyayı bilgi edinimi, paylaşımı, eğlence ve sosyal etkileşim amaçlarıyla kullandıkları belirlenmiştir[21]. Sosyal medyayı diğer amaçlardan ziyade daha çok bilgi paylaşımı yapmak için kullanan öğrencilerin akademik başarı düzeylerinin daha yüksek olduğu sonucuna ulaşılmıştır. Benzer şekilde Hameed ve ark. tarafından yapılan, sosyal medya kullanımının lisans öğrencilerinin akademik performansı üzerindeki etkisinin araştırıldığı çalışmada da, sosyal ağların eğitim dışı amaçlar için kullanılmasının öğrencilerin akademik performansını olumsuz etkilediği belirlenmiştir[22]. Bu çalışmada da sosyal medya kullanım alışkanlıkları ve motivasyonları ölçeği toplam puanı ile genel not ortalaması arasında negatif ilişki olduğu belirlenmiştir. Sosyal Medya Kullanım Alışkanlıkları ve Motivasyonları ölçeğinin alt ölçeklerinden sadece bilgilenme motivasyonunun akademik başarı üzerine olumlu bir etkisi olabileceği göz önünde bulundurulduğunda çalışmamızın sonucu diğer çalışmalarla uyumludur. Konu ile ilgili literatürde yer alan çalışmalardan farklı olarak bizim çalışmamızda sosyal medya kullanım alışkanlıkları ve motivasyonları ölçeğinin alt ölçeği olan eğlence motivasyonu ile not ortalamaları arasında istatistiksel olarak negatif olmayan bir ilişki olduğu belirlenmiştir. Wakefield ve ark.'nın yaptığı çalışmada, sosyal medya kullanımının genel olarak akademik başarısı daha düşük olan öğrencilerin akademik başarısını olumsuz etkilediği ve daha yüksek akademik başarı gösterenlerin performansını önemli ölçüde etkilemediği gösterilmiştir[23]. Bu çalışmadan yola çıkarak belirli bir akademik başarıya sahip öğrencilerin, kullanım motivasyonlarının farklı oluşu nedeniyle akademik başarılarının olumsuz etkilenmediği ve sosyal medyayı bilgi edinme veya paylaşma amaçlarıyla da kullandıkları söylenebilir. Ayrıca bu çalışmada eğlence motivasyonu alt ölçeği ile pozitif korelasyon olması, öğrencilerin kullanım süresi ve sıklığının doğru bir şekilde ayarlanmasıyla sosyal medyanın eğlence amaçlı

kullanılmasının öğrencilerin motivasyonunu yükseltmeye ve streslerini azaltmaya yardımcı olabileceği düşünülmektedir.

Çalışmanın kısıtlılıkları arasında sadece belirli bir üniversitenin Fizyoterapi ve Rehabilitasyon Bölümünde yapılmış olması gösterilebilir. Ülkemizde Fizyoterapi öğrencilerinde sosyal medya kullanımı ve akademik başarıyı inceleyen ilk çalışma olması ise, çalışmamızın güçlü yönlerindendir. Öğrencilerin sosyal medya kullanım, motivasyon ve alışkanlıklarını daha iyi anlamak ve farkındalık geliştirebilmek için daha geniş çaplı çalışmalara ihtiyaç vardır.

SONUÇ VE ÖNERİLER

Çalışmamızın sonuçlarına göre Fizyoterapi ve Rehabilitasyon Bölümü öğrencilerinde sosyal medya kullanımı akademik başarıyı olumsuz etkilemektedir. Sosyal medya kullanım alışkanlıkları ve motivasyonları cinsiyete, sınıf düzeyine ve sosyal medya kullanım süresine göre değişmemektedir. Sosyal medya kullanım süreleri, sosyal medyanın öğrencilerin hayatlarında büyük bir yer kapladığını göstermektedir. Bu nedenle sosyal medyanın verimli kullanılması konusunda gerekli önlemler alınmalıdır. Öğrencilerin sosyal medya kullanım alışkanlıklarını ve motivasyonlarını bilmek, öğrencilerin sosyal medyayı daha faydalı bir şekilde kullanmaları için yönlendirmek adına önemlidir. Ayrıca sosyal medya kullanım sürelerinin yanında, öğrencilerin sosyal medyayı "niçin" ve "ne amaçla" kullandığının da araştırılması gerekmektedir.

KAYNAKLAR

1. Boyd, DM. and Ellison, NB. (2007). Social Network Sites: Definition, History, and Scholarship. Journal of Computer-Mediated Communication, 13 (1):210–30.
2. Kircaburun, K, Alhabash, S, Tosuntaş ŞB. and Griffiths MD. (2020). Uses and Gratifications of Problematic Social Media Use Among University Students: a Simultaneous Examination of the Big Five of Personality Traits, Social Media Platforms, and Social Media Use Motives. Int J Ment Health Addict, 8 (3):525–47.
3. Katz, E, Blumler, JG. and Gurevitch, M. (1973). Uses and Gratifications Research. Vol. 37, Source. The Public Opinion Quarterly, 37, 509-523.
4. Rubin, AM. (1993). Audience activity and media use. Communications Monographs, 60 (1):98–105.
5. Kurtuluş, S, Özkan, E. ve Öztürk S. (2015). How Do Social Media Users in Turkey Differ in Terms of Their Use Habits and Preferences? International Journal of Business and Information, 10 (3), 337-364
6. Lei, J. and Zhao, Y. (2007). Technology uses and student achievement: A longitudinal study. Comput Educ, 49 (2):284–96.
7. Whiting, A. and Williams, D. (2013). Why people use social media: a uses and gratifications approach. Qualitative market research: an international journal, 16 (4): 362-369.
8. Bal, E. and Bicen, H. (2017). The purpose of students' social media use and determining their perspectives on education. Procedia Comput Sci, 120:177–81.
9. Bialy, S. and El Jalali, A. (2023). Go Where the Students Are: A Comparison of the Use of Social Networking Sites Between Medical Students and Medical Educators, 1 (2), e4908.
10. Barton, BA, Adams, KS, Browne, BL. and Arrastia-Chisholm, MC. (2021). The effects of social media usage on attention, motivation, and academic performance. Active Learning in Higher Education, 22 (1):11–22.
11. Tafesse, W. (2022). Social networking sites use and college students' academic performance: testing for an inverted U-shaped relationship using automated mobile app usage data. International Journal of Educational Technology in Higher Education, 19 (1), 16
12. Van Deursen, AJ. and Agm Van Dijk, J. (2014). The digital divide shifts to differences in usage, 16.3: 507-526.
13. Balcı, Ş. ve Ayhan, B. (2007). Üniversite öğrencilerinin internet kullanım ve doyumları üzerine bir saha araştırması. Selçuk İletişim, 5.1: 174-197.
14. İçirgin, Ö. (2018). Üniversite öğrencilerinin sosyal medya kullanım alışkanlıkları ve motivasyonları (Yüksel Lisans Tezi). Sosyal Bilimler Enstitüsü, Konya, Türkiye.
15. Küçükkaya, B, Özdemir, B. ve Süt HK. (2022). Hemşirelik öğrencilerinde sosyal medya kullanımı ile akademik başarı ve akademik öz yeterlik arasındaki ilişki. Sağlık Akademisyenleri Dergisi, 9 (1): 31-41.
16. Himmetoğlu A. ve Ayhan A. (2021). Sosyal Medya Kullanım Motivasyonu, Boş Zaman Doyumu ve Yaşam Doyumu Arasındaki İlişkinin İncelenmesi: Akdeniz Üniversitesi Örneği. Mehmet Akif Ersoy Üniversitesi İktisadi ve İdari Bilimler Dergisi, 8 (2):1141–74.
17. Chandrasena, PPCM. and Ilankoon IMPS. (2022). The impact of social media on academic performance and interpersonal relations among health sciences undergraduates. Journal of education and health promotion, 11, 1: 117.
18. Shafiq, M. and Parveen K. (2023). Social media usage: Analyzing its effect on academic performance and engagement of higher education students. Int J Educ Dev, 98, 102738
19. Parlak Sert, H. ve Başkale, H. (2023). Students' increased time spent on social media, and their level of coronavirus anxiety during the pandemic, predict increased social media addiction. Health Info Libr J, 40 (3):262–74.
20. AlFaris, E, Irfan, F, Ponnamperuma, G, Jamal, A, Van der Vleuten, C. and Al Maflehi, N, (2018). The pattern of social media use and its association with academic performance among medical students. Med Teach, 40 (sup1): 77–82.
21. Radmard, S, Soysal, Y, Kutluca, AY. ve Türk, Z. (2020). Üniversite Öğrencilerinin Sosyal Medya Kullanım Amaçlarının Çeşitli Değişkenler Açısından İncelenmesi. Uluslararası Eğitim Araştırmacıları Dergisi, 3 (2):171–98.

22. Hameed, I, Haq, MA, Khan, N. and Zainab B. (2022). Social media usage and academic performance from a cognitive loading perspective. On the Horizon, 24;30 (1):12–27.

23. Wakefield, J. and Frawley, JK. (2020). How does students' general academic achievement moderate the implications of social networking on specific levels of learning performance? Comput Educ, 144: 103694.

Sporda Beslenme Farkındalığı Envanterinin Geliştirilmesi

Development of Nutrition Awareness Inventory in Sports

Dicle ARAS[1], Bijen FİLİZ[2], Tuğçe Nur ERDOĞMUŞ[3], Özge YAVAŞ[4], Çağla ARAS[5], Abdülkadir BİROL[6]

ÖZ

Bu araştırmanın amacı; sporcuların sporda beslenme farkındalık düzeylerini belirlemeye yönelik psikometrik özelliklerin incelendiği geçerli ve güvenilir bir ölçme aracı geliştirmektir. Bu amaçla rasyonel ve istatiksel kapsamda geçerlik ve güvenirlik çalışmaları yapılmıştır. Geçerlik kapsamında; uzman değerlendirmelerine dayalı kapsam ve yapı geçerliği, istatiksel olarak; açımlayıcı faktör analizi (AFA) ve doğrulayıcı faktör analizi (DFA) yürütülmüştür. Güvenirlik analizlerinde Cronbach alfa ve eşdeğer yarılar analizlerinden yararlanılmıştır. Toplamda 415 sporcuyla gerçekleştirilen çalışmada yapının açımlanmasına ilişkin analizler dışında toplam varyansın %60,5'ini açıklayan 27 maddelik ölçek elde edilmiştir. DFA ile AFA'nın uygulandığı birbirinden tamamen bağımsız iki grup üzerinde test edilen modelde maddelerin yol katsayısı değerlerinin 0,51 ile 1,05 arasında değiştiği, t değerlerinin istatiksel olarak anlamlı olduğu ve sınanan ölçme modelinin uyum indekslerinin kabul edilebilir aralık içerisinde olduğu sonucuna ulaşılmıştır. Beş faktörlü yapıda Cronbach alfa güvenirlik katsayısı 0,93 iken eş değer yarılar yöntemi ile elde edilen sonuçlarda ölçeğin tümü ve alt boyutları 0,70'in üzerinde elde edilmiştir. Bu bulgular doğrultusunda; enerji kaynakları, vitamin ve mineraller, ergojenik yardımcılar, beslenmeyi etkileyen faktörler ve spora özgü beslenme olarak beş alt ölçekten oluşan sporda beslenme farkındalığı ölçeğinin geçerli ve güvenilir bir ölçme aracı olduğu söylenebilir.

Anahtar Kelimeler: Beslenme, Beslenme Farkındalığı, Ölçek Geliştirme, Sporda Beslenme

ABSTRACT

The purpose of this research is to develop a valid and reliable measurement tool that examines the psychometric properties to determine the level of nutrition awareness of athletes in sports. For this purpose, validity and reliability studies were carried out in a rational and statistical context. Within the scope of validity; content and structure validity based on expert evaluations, statistically; exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were conducted. Cronbach's alpha and equivalent halves analyses were used in reliability analyses. In the study conducted with a total of 415 athletes, a 27-item scale was obtained that explained 60.5% of the total variance, apart from the analyzes regarding the explanation of the structure. In the model tested on two completely independent groups, where CFA and EFA were applied, it was concluded that the path coefficient values of the items varied between 0.51 and 1.05, the t values were statistically significant, and the fit indices of the tested measurement model were within the acceptable range. While the Cronbach's alpha reliability coefficient was 0.93 in the five-factor structure, the entire scale and its sub-dimensions were above 0.70 in the results obtained with the equivalent halves method. In line with these findings; It can be said that the sports nutrition awareness scale, which consists of five subscales as energy sources, vitamins and minerals, ergogenic aids, factors affecting nutrition and sports-specific nutrition, is a valid and reliable measurement tool.

Keywords: Nutrition, Nutrition awareness, Scale Development, Sports Nutrition

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[1] Doç. Dr. Dicle ARAS, Spor Bilimleri, Ankara Üniversitesi Spor Bilimleri Fakültesi, Antrenörlük Eğitimi Bölümü, daras@ankara.edu.tr, ORCID: 0000-0002-9443-9860
[2] Doç. Dr. Bijen FİLİZ, Spor Bilimleri, Afyon Kocatepe Üniversitesi, Antrenörlük Eğitimi Bölümü, bijenfiliz@aku.edu.tr, ORCID: 0000-0001-5863-3861
[3] Doktora Öğrencisi Tuğçe Nur ERDOĞMUŞ, Spor Bilimleri Fakültesi, Antrenörlük Eğitimi Bölümü, tgcnrdgms_97@hotmail.com, ORCID: 0000-0001-9396-7197
[4]Dr. Öğr. Üyesi Özge YAVAŞ, Spor Bilimleri, Mardin Artuklu Üniversitesi, Beden Eğitimi ve Spor Yüksekokulu, ozgeyavas@hotmail.com, ORCID: 0000-0002-1948-1620
[5] Doktora Öğrencisi Çağla ARAS, Spor Bilimleri, Mersin Üniversitesi Spor Bilimleri Fakültesi, arascaglaaras@gmail.com, ORCID: 0000-0002-8003-845X
[6]Dr. Öğr. Üyesi Abdülkadir BİROL, Spor Bilimleri, Trabzon Üniversitesi Spor Bilimleri Fakültesi, Antrenörlük Eğitimi Bölümü, birol_kadir@hotmail.com, ORCID: 0000-0002-3312-9746.
İletişim / Corresponding Author: Çağla ARAS
e-posta/e-mail: arascaglaaras@gmail.com
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GİRİŞ

Dünya Sağlık Örgütüne göre beslenme; vücudun ihtiyaçlarına göre gerekli gıdaların alınması olarak ifade edilmiştir.[1] Bir başka tanımda ise; yiyecek ve içecekler ile bunların besin maddeleri ve besin bileşenlerinin incelenmesi şeklinde açıklanmıştır.[2] Dengeli beslenme ve düzenli fiziksel aktivite sağlığın temel yapı taşlarıdır ve birbirinden ayrı düşünülemeyen iki kavramdır. Beslenme, enerji üretiminden egzersiz sonrası toparlanma sürecine kadar tüm aşamaları etkilemektedir. Optimal beslenme ve fiziksel aktivite ile egzersiz performansı ve egzersizden sonra iyileşmenin geliştiği görülmüştür.[3] Sporcuların beslenme programları sedanter veya rekreatif olarak fiziksel aktiviteye katılan kişilerden farklılık göstermektedir. Örneğin sporcular fiziksel aktivite sırasında terleme ile gerçekleşen elektrolit kaybını telafi etmek için daha fazla sıvıya ihtiyaç duymaktadır ve gerçekleştirilen egzersizle ilişkili enerji dengesinin korunması için daha fazla besin alımına gereksinimleri vardır. Bununla birlikte, sporcuların performanslarını artırmak için belirlenen beslenme şekli yapılan spora ve sporcunun performans hedefine bağlı olarak da farklılık gösterebildiğinden bireysel stratejiler geliştirilmesi önemli görünmektedir.[4]

Bir başka önemli nokta, özellikle sporcular açısından besin alımı miktarı ve zamanlamasıdır. Antrenman ve müsabaka öncesi, sırası ve sonrası beslenme yöntemleri sporun fizyolojik gereksinimlerine cevap verebilmeli ve bireysel farklılıklar göz önüne alınarak hazırlanmalıdır. Yapılan spora uygun enerji alımı, enerjinin besin ögesi dağılımı, spor öncesi ve sonrası besin seçimi, yeterli sıvı alımı performansı etkileyen faktörlerdir.[5] Sporcularda doğru beslenme optimal performans için gerekli olmasının yanı sıra sporcunun sağlığının korunması için de oldukça önemlidir. Örneğin, uzun süreli ve ağır antrenmanların bağışıklık sistemini baskıladığı ve bu durumun makro ve mikro besin gereksinimini karşılayan bir diyet ile düzelebildiği görülmüştür.[6] Ek olarak, sporcularda daha riskli olduğu görülen gastrointestinal sistemin ve sporcu performansında etkisi bulunan iskelet-kas sistemi, kardiyovasküler sistem ile endokrin sistemin düzenli ve sağlıklı çalışması için doğru bir beslenme anahtar faktördür.

Dolayısıyla sporcular ve antrenörler tarafından beslenme ile ilgili temel ve spora özgü bilgi düzeyinin detaylı, yeterli olması beklenmektedir. Sporda beslenme farkındalığı değerlendirilirken enerji kaynakları, vitamin ve mineraller, ergojenik yardımcılar, beslenmeyi etkileyen faktörler ve spora özgü beslenme başlıkları ele alınabilir.

Enerji Kaynakları

Temel besin ögeleri; karbonhidrat, protein, yağ, vitamin, mineral ve su olarak ifade edilebilir. Besin ögelerinden karbonhidrat, protein ve yağ enerji kaynağı olarak kullanılmaktadır. Diğer besin ögeleri olan vitamin, mineral ve su ise sağlık ve vücudun etkin çalışması için gerekli ögelerdir. Karbonhidratlar performansı optimize etmek için birincil besin kaynağıdır. Bunun nedeni ise karbonhidratların farklı formlarının enerji ihtiyacını karşılayan ana enerji kaynağı olmasıdır. Uzun süreli dayanıklılık sporları vb. egzersizlerde karbonhidratlar ile birlikte yağlar da enerji kaynağı olarak kullanılmaktadır. Dayanıklılık egzersizleriyle ilgili güncel çalışmalar, karbonhidrat alımının azaldığı dönemlerde (ve potansiyel olarak yüksek yağ alımının arttığı), mitokondriyal biyogenezi ve lipid oksidasyonunda artış vb. adaptasyonların geliştiğini göstermektedir.[7] Proteinler ise egzersiz ile hasar gören kasların onarılması ve toparlanma süreci için gereklidir.[5] Son yıllarda yapılan çalışmalar uykudan önce alınan proteinin, gece uykusu esnasında etkili bir şekilde sindirildiğini, bu sayede gece boyunca kas protein sentez hızını artırdığını göstermektedir.[8]

Vitamin ve Mineraller

Enerji kaynağı olmayan besin ögelerinden vitamin ve mineraller de sporcu performansı üzerinde etkili olabilmektedir. Örneğin sporcular yeterli miktarda demir minerali aldıklarında aerobik güçlerinde artış meydana gelirken, demir alımı yetersiz kalırsa bu demir eksikliği anemisi denilen kansızlığa sebep olmaktadır. Bir başka çalışmada ise C ve E vitamini takviyesinin aerobik egzersiz sonrası kas hasarı belirteçlerini azalttığı görülmüştür.[9] Son olarak su ise, yaşamsal fonksiyonların devam edebilmesi için gereken önemli bir besin ögesidir. Vücudun su ve elektrolit düzeyinin belirli bir ölçüde tutulmasına hidrasyon denmektedir. Egzersiz sonucunda ter ile yüksek miktarda su ve elektrolit kaybedildiğinde ortaya çıkan, normalden fazla sıvı kaybına ise dehidrasyon denmektedir ve bu durum insan sağlığını ve sportif performansı olumsuz etkilemektedir.[10] Bu nedenle sporcuların hidrasyon durumuna dikkat etmeleri de önem taşımaktadır. Bu duruma en iyi örnek, soğuk havada ve yüksek irtifalarda hava basıncının düşük olması nedeniyle solunumla su kaybının artması, bu nedenle ilave sıvı tüketimi gerekmesi gösterilebilir.[11]

Ergojenik Yardımcılar

Bir başka önemli konu da besinsel ergojenik yardımcılardır. Sporcuların performansını ve çalışma verimini arttıran, enerji dengesi ve kas gelişimi sağlayan, egzersiz sonrası toparlanmayı hızlandıran uygulama veya tekniklere ergojenik yardımcılar denmektedir ve bu yardımcılar sporcular tarafından sıklıkla kullanılmaktadır. Sporcuların kullandığı besinsel ergojenik destekler arasında yaygın olarak; whey, BCAA, kreatin, karnitin, kafein ve beta alanin bulunmaktadır. Bunun yanı sıra gingseng, yeşil çay ekstratı, nitrat/nitrik oksit ve öncülleri, kurkumin, bezelye, spirulina gibi bitkisel ergojenik yardımcılara yönelim bulunmaktadır. Örneğin spirulinanın, laktat dehidrojenaz (LDH), kreatin kinaz (CK) ve interlökin 6 (IL-6) plazma seviyelerinde önemli bir düşüş ve toplam antioksidan kapasite (TAC), süperoksit dismutaz (SOD) ve glutatyon peroksidaz (GPX) plazma seviyelerinde önemli bir artış sağlayarak kas hasarı üzerinde etkili olduğu görülmüştür.[12] Bir başka çalışmada ise patates proteininin kas protein sentez oranını süt proteini ile aynı oranda artırdığı görülmüştür.[13] Tüm olumlu sonuçlara rağmen ergojenik yardımcıların bileşenlerin yanlış tanımlanması, güvenlik endişesi, kalite güvencesi vb. sorunlara sebep olduğu bilinmektedir. Bu nedenle sporcular herhangi bir besinsel destek ürünü kullanmadan önce konu hakkında uzmanlardan bilgi alarak bilgi sahibi olmalıdır.

Beslenmeyi Etkileyen Faktörler

Beslenmeyi etkileyen bireysel, çevresel ve psikolojik birçok faktör bulunmaktadır. Bireysel faktörlerin başında bireyin yaşı, cinsiyeti, vücut ağırlığı, fiziksel aktivite durumu ve sağlık durumu gelmektedir. Bu noktada bireysel beslenme çocukluk çağı beslenmesi, adölesan beslenmesi, gebelikte beslenme, yaşlılarda beslenme, sporcularda beslenme vb. birçok kategoriye ayrılmıştır. Bunun dışında diyabet, böbrek hastalıkları, mide rahatsızlıkları, osteoporoz, anemi, kanser gibi birçok hastalığa sahip sporcu veya egzersiz yapan bireylere yönelik özel beslenme planları oluşturulmaktadır. Çevresel faktörler ise aile, yakın arkadaş çevresi, okul/iş ortamı, besinlerin bulunabilirliği/ulaşılabilirliği, sosyal medya etkisi, besinlerin maddi değeri vb. faktörler olarak sıralanabilir. Ek olarak yüksek ve alçak basınç, sıcak ve soğuk hava, sualtı gibi ortam faktörleri de beslenmeyi etkilemektedir. Örneğin yüksek sıcaklıkta antrenman yapan bireylerde ılıman ortamdakilere kıyasla egzersize bağlı oksidatif stres ve inflamasyon daha yüksek bulunmuştur.[14] Bir başka örnekte ise 8 hafta boyunca sualtı koşu bandında Tabata aralıklı antrenman programı gerçekleştiren katılımcıların esneklik ve anaerobik güç değerlerinde artış görülmüştür.[15]

Spora Özgü Beslenme

Sporcularda enerji harcaması antrenmanın türüne ve yoğunluğuna göre değişmektedir. Genel olarak erkek sporcular kadın sporculara göre daha fazla enerji harcamaktadır.[16] Enerji ihtiyacı anaerobik ve aerobik sistemler aracılığıyla kreatin, glikoz, glikojen, yağ asitleri kullanılarak karşılanmaktadır. Yüksek karbonhidratlı, yüksek proteinli veya yüksek yağlı diyetler, yapılan antrenmanın türüne göre uygulanmaktadır. Aynı zamanda sporcunun besin ögesi gereksinmesi de buna göre değişmektedir ve her geçen gün spora ve sporcuya özgü beslenmeye dair yeni araştırma bulgularıyla karşılaşılmaktadır. Örneğin son yıllarda yapılan bir çalışmanın sonucu, D vitamininin kas yenilenmesinde ve hipertrofide düzenleyici bir rol oynayabileceğini göstermektedir.[7] Bir başka çalışmada ise egzersiz sonrası inflamasyon ve oksidatif streste polifenol alımı ile azalma görüldüğü bildirilmiştir.[17]

Sporcuların günlük besin alımının egzersiz performansı üzerindeki önemini anlayabilmesi için yeterli beslenme bilgisine sahip olması gerekir çünkü beslenme bilgisi ile sağlıklı besin seçimleri arasında doğrusal bir ilişki bulunmaktadır.[18-20] Dolayısıyla beslenme bilgisi beslenme durumunu etkileyen birincil faktör olarak değerlendirilebilir.[19] Literatürde sporcuların beslenme şekilleri üzerine yapılan bilimsel çalışmalar bulunmaktadır. Bu araştırmalar genel olarak üniversite düzeyinde spor yapan kişilerin temel beslenme kavramları hakkında yeterli bilgi seviyesine sahip olmadığını ancak beslenme eğitimi almaya açık olduğunu göstermektedir.[21-23] Ancak bu çalışmaları genellikle tek bir spor branşından kişilerden beslenme konusunda bilgi toplanmış[24] ve genel beslenme anketleri[25] kullanarak sporcuların beslenme şekillerini değerlendirmiştir. Oysaki spor beslenmesini daha geniş kapsamlı ve alt başlıklarla değerlendirmenin daha etkili beslenme yaklaşımlarıyla sonuçlanacağı düşünülmektedir.[26] Literatürde sporcuların beslenme bilgi düzeylerini değerlendirmek için bazı envanterlerin geliştirildiği de görülmektedir. Ancak bu envanterlerin de bazı sınırlıkları bulunmaktadır. Örneğin Zawila ve arkadaşları (2003) tarafından geliştirilen Beslenme Bilgisi ve Tutumu Ölçeği (NKAQ) 76 adet likert ölçeğinde doğru-yanlış soru ve 7 adet açık uçlu sorudan oluşmaktadır. Ancak çalışmada geçerlilik ve güvenirlik yapılmamıştır ve örneklem sayısı 60 ile sınırlanmıştır.[23] Torres-McGehee ve arkadaşlarının (2012) geliştirdiği Spor Beslenmesi Bilgisi (Sport Nutrition Knowledge, SNK) mikro besinler ve makro besinler, takviyeler ve performans, kilo yönetimi ve yeme bozuklukları bölümlerinden oluşan 20 soruluk bir envanterdir. Ancak geçerlik çalışması yapılmış, güvenirlik çalışması yapılmamıştır.[27] Trakman ve arkadaşları (2017) tarafından geliştirilen bir diğer envanter olan Sporda Beslenme Bilgisi Anketi (NSKQ) ise kilo yönetimi, makro besinler, mikro besinler, sporcu beslenmesi, takviyeler ve alkol olarak altı bölümden oluşan bir ankettir.[28] Toplam 89 sorudan oluşan anketin katılımcılarına Facebook ve çevrimiçi spor platformları üzerinden ulaşıldığı için çalışma popülasyonuna dair bilgiler güvenilir olmayabilir. Blennerhasset ve arkadaşları (2019) tarafından ultra maraton sporcuları için geliştirilen Ultra Dayanıklılık Sporcuları İçin Beslenme Bilgisi Anketi (ULTRA-Q) se yalnızca besinler, sıvı alımı, dinlenme, vücut kompozisyonu ve takviyeler başlıklarından oluşmaktadır ancak tek bir alana özgü olarak oluşturulmuştur.[29] Son olarak yakın zamanda Karpinski ve arkadaşları (2019) tarafından geliştirilen 49 Maddelik Sporcu Beslenmesi Bilgi Envanterine (49-SNKI) bakıldığında karbonhidrat, protein, yağ, hidrasyon, mikro besin ögeleri, kilo kontrolü olan 6 başlıktan oluşmaktadır. Anketin örneklemine alınan sporcuların büyük bir kısmı yetişkin üniversite sporcusu ve kadın olduğu için anketin genellenebilirlik düzeyi düşüktür.[30]

Bu nedenle, bu çalışmada sporcuların beslenme bilgilerini değerlendirmek için sporda beslenme farkındalığı ölçeği geliştirilmesi amaçlanmıştır. Güncel ölçekte alt başlıklar; enerji kaynakları, vitamin ve mineraller, ergojenik yardımcılar, beslenmeyi etkileyen faktörler ve spora özgü beslenmedir ve bu şekliyle daha geniş kapsamlı bir bilgi

düzeyini değerlendirmeyi sağlamaktadır. Aynı zamanda ölçek 27 maddeden oluştuğu için sporcular açısından zaman sıkıntısı da yaratmamaktadır. Ek olarak envanter toplam 415 kişiye uygulanmış ve geçerlilik/güvenirlilik çalışması yapılmıştır. Ayrıca güncel çalışmanın örneklemi 204 erkek 211 kadından oluştuğu için cinsiyetler arasında homojen bir dağılım görülmekte, bu durum da çalışmanın genellenebilirlik düzeyini artırmaktadır.

MATERYAL VE METOT

Araştırma Grubu

Çalışma, iki grup halinde yürütülmüş ve veriler aralıklı olarak toplanmıştır. İlk grupta 102 kadın (% 47,4), 113 erkek (% 52,6) toplam 215 ve ikinci grupta 91 kadın (%45,5), 109 erkek (% 54,5) toplam 200 olmak üzere çalışmaya 415 sporcu dahil olmuştur. İlk grupta yer alan sporcuların yaş ortalamaları 26,16±4,95; 134'ü (% 62,3) amatör, 81'i (% 37,7) profesyoneldir. İkinci grupta yer alan sporcuların yaş ortalamaları 27,95±5,63; 118'i (% 59,0) amatör, 82'si (% 41,0) profesyoneldir. Ayrıca sporcular arasında beslenme eğitimi alan veya sporcu beslenmesine ilişkin eğitim geçmişi olanlar araştırma kapması dışında bırakılmıştır.

Ölçek geliştirme çalışmalarında örnek büyüklüğü önemli bir faktördür ve bu yazarlar tarafından çoğu zaman göz ardı edilmektedir. Literatürde örneklem büyüklüğü ile ilgili madde sayısının 5-10 katı olması, örneklem sayısının en az 100-250 olması, örneklem büyüklüğünde 100'ün yetersiz, 200'ün orta düzey, 300'ün iyi, 500'ün çok iyi ve 1000'in üzerinde olmasının mükemmel düzeyde olduğuna ilişkin birçok farklı görüş mevcuttur.[31-36] Ayrıca ölçek geliştirme alanında rehber bir kaynak kitap yayınlayan DeVellis ve Thorpe (2021), ölçek geliştirme çalışmalarında örneklemden elde edilen verilerin ikiye ayrılarak her iki örneklem üzerinde geçerliliğinin sınanmasının şans faktörünü azaltacağı ve çapraz doğrulama için önemli olduğunu da vurgulamıştır.[37] Bu kapsamda çalışmadaki veri sayısının yeterli düzeyde olduğu ve iki ayrı örneklemle çalışmanın yürütülmesinin tüm kriterlere uygun olduğu düşünülebilir.

Ölçek Geliştirme Basamakları

Çalışmada öncelikle "beslenme bilgisi" ile ilgili ulusal ve uluslararası literatür incelenmiştir. Bu bağlamda beslenme, sporcu beslenmesi, beslenme bilgisi, beslenme bilgi düzeyi ile ilişkili literatürde anket veya ölçek geliştirme veya uyarlama çalışmalarının varlığı sorgulanmıştır. Literatür incelemesi sonucunda 'beslenme bilgisi' içerikli akademik literatürde sınırlı sayıda çalışmanın yer alması sebebi ile geliştirilmek istenen ölçeğe ilişkin madde havuzunun oluşturulmasında ulusal ve uluslararası literatürde yer alan beslenme ile ilgili kitaplardan faydalanılmıştır. Madde havuzunun oluşturulması sürecinde; genel beslenme bilgisi ve beslenme bozuklukları, enerji kaynakları, vitamin ve mineraller, sıvı dengesi ve elektrolitler, ergojenik yardımcılar, beslenmeyi etkileyen faktörler ve spora özgü beslenme olmak üzere toplam 7 alt başlık belirlenmiş ve her alt başlık altına maddeler yazılmıştır. Alan ve ölçme değerlendirme alanında uzman kişilerin görüşleri alındıktan sonra gerekli eklemeler ve düzeltmeler yapılmış ve toplam 82 madde denemelik ölçüm aracında yer almıştır. Ölçeğin derecelendirmesi "Fikrim yok/Bilmiyorum (0), Kesinlikle yanlış (1), Emin değilim (2), Kesinlikle doğru (3)" olmak üzere Dörtlü Likert Tipi olarak belirlenmiştir. Ölçek formunun derecelendirme sisteminin belirlenmesi ile birlikte son düzenlemeleri yapılan genel beslenme bilgisi ve beslenme bozuklukları, enerji kaynakları, vitamin ve mineraller, sıvı dengesi ve elektrolitler, ergojenik yardımcılar, beslenmeyi etkileyen faktörler ve spora özgü beslenme olmak üzere yedi kategoriden oluşan ölçek formunda yer alan her bir maddeyi sporcuların derecelendirmeleri istenmiştir.

Veri Toplama Süreci ve Analizi

Ölçek, "Google Forms" programında "çevrimiçi Form" oluşturularak hazırlanmış ve sporculara uygulama linki üzerinden form araştırmacılar ve katılımcılar aynı fiziksel ortamdayken yüz yüze doldurtularak veriler toplanmıştır.

Toplanan veriler SPSS programına aktarılarak istatistiksel analizler için veriler hazır hale getirilmiştir. İki ayrı veri grubuna ilişkin farklı analizler yapılmıştır. İlk grup verileri ile normallik varsayımlarına ilişkin analizler, örneklem büyüklüğü ile ilgili veri setinin uygunluğuna ilişkin analizler, Açımlayıcı Faktör Analizi (AFA), madde test korelasyonu, iç tutarlılık güvenirliği, %27 alt üst grup ortalamalarına ilişkin madde analizi, alt ve üst gruplar arasındaki farklılığı görmek amacıyla bağımsız t testi yapılırken; ikinci grup verileri ile normallik varsayımlarına ilişkin analizler, Doğrulayıcı Faktör Analizi (DFA), yapılmıştır. Ölçeğe ilişkin tanımlayıcı istatistikler, normallik analizleri, Açımlayıcı Faktör Analizi (AFA) madde test korelasyonu, iç tutarlılık güvenirliği, alt üst grup ortalamalarına ilişkin madde analizi SPPS 23.0 programında yapılırken, Doğrulayıcı Faktör Analizi (DFA) için LISREL 8.70 programından yararlanılmıştır.

BULGULAR VE TARTIŞMA

Ölçeğin Geçerlik Çalışmaları

Öncelikle açımlayıcı faktör analizi (n= 215) ve doğrulayıcı faktör analizi (n= 200) için elde edilen verilerde maddelerin normallik dağılımına bakılmış, madde puanlarının -1,5 ve +1,5 Skiwness ve Kurtosis aralığında olduğu tespit edilerek[34] verilerin normal dağıldığı gözlenmiştir.

Açımlayıcı Faktör Analizi (AFA)

Ölçeğin yapı geçerliğini belirlemek amacıyla veriler üzerinde AFA uygulanmıştır. Güvenirlik analizi sonucunda düzeltilmiş toplam madde korelasyon değerleri 0,40 ve altında olan yedi madde (1, 2, 3, 6, 11, 12, 16) ölçekten çıkarılmıştır. Döndürme öncesi Bartlett testi anlamlı bulunmuştur. Örneklem büyüklüğünün faktörleşmeye uygunluğunu belirlemek amacıyla yapılan KMO değeri 0,927 olarak tespit edilmiştir. İlgili literatüre göre KMO değeri 0,60 orta, 0,70 iyi, 0,80 çok iyi, 0,90 mükemmel olarak kabul edilmektedir.[38] Dolayısıyla KMO değerinin 1'e yaklaşması da (0,90), örneklem büyüklüğünün mükemmel olduğunu ve Bartlett testi sonucunun ölçek maddeleri arasındaki korelasyonun varlığını ortaya koyması, elde edilen veri setinin faktör analizi için uygun olduğunu göstermektedir. Uygulanan Bartlett testi sonucu elde edilen Ki-kare test istatistiği anlamlı bulunmuştur ($\chi 2$= 10020,974; sd = 2775; p<0,01).

Faktör analizi için döndürme yapmadan önce öz değeri 1,00'den büyük 15 alt boyut ortaya çıkmıştır. Döndürme öncesi çıkan faktörler ilgili sorumluluk değişkenine ilişkin varyansın %65,233'ünü açıklamaktadır. Faktör analizinde beslenme farkındalığı maddelerini gruplamak için Varimax dik döndürme tekniği (döndürülmüş bileşenler analizi) kullanılmıştır. Ölçek geliştirme ile ilgili olarak faktörlerin oluşturulmasında 0,30 ile 0,45 arasında değişen faktör yüklerinin alt kesme noktası olarak alınabileceği belirtilmektedir.[39] Faktör yüklerinin dağılımı incelendiğinde, ölçek maddelerinin yedi alt boyut altında toplanma eğiliminde olduğu görülerek kesme noktası 0,30 kabul edilip faktör yükleri açısından 0,35'in altında olan 48 maddenin çıkarılmasına (4, 5, 7, 8, 9, 10, 13, 14, 15, 17, 18, 24, 25, 27, 28, 29, 30, 31, 32, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 55, 56, 57, 59, 60, 61, 62, 63, 65, 66, 67, 69, 70, 71, 73, 78, 79, 80, 81) karar verilmiş ve anlamlı 27 madde elde edilmiştir. Çıkarılan maddelerle birlikte faktör analizi tekrar

edildiğinde, öz değeri 1,00'dan büyük beş alt boyut kalmıştır. Bu beş alt boyut beslenme farkındalığına ilişkin varyansın %60,461'ini açıklamaktadır. Bu sonuç, Kline (2011) tarafından kabul edilebilir sınırlar olarak belirtilen %41'in üzerindedir.[40] Bu durum ölçeğin toplam varyans oranının yeterli bir değere sahip olduğunu göstermektedir. Ayrıca faktör analizinin ikinci tekrarı sonucunda elde edilen 27 maddenin KMO değeri, 0,934; Bartlett testinin anlamlılık düzeyi ise 0,000 olarak bulunmuştur ($\chi 2$= 2881,082; sd= 351; p<0,01). KMO değeri, 1'e yakın bir değer olması ile çalışma grubunun sayısının yeterli olduğu kanısına varılmıştır. Hem KMO değerinin 1'e yakın olması hem de Bartlett testinin 0,000 ile anlamlı çıkması sonucunda verilerin faktör analizine uygun olduğu söylenebilir. Tablo 1'de maddelerin açımlayıcı faktör yük dağılımları ve madde test korelasyonu değerleri verilmiştir.

Tablo 1. Ölçek Maddelerinin Açımlayıcı Faktör Yük Dağılımları ve Madde Test Korelasyon (R) Değerleri

Madde no	Yeni madde no	SÖB	EY	VM	EK	BEF	r
19	1				0,52		0,53
20	2				0,80		0,48
21	3				0,66		0,47
22	4				0,55		0,54
23	5				0,72		0,62
26	6				0,45		0,61
33	7			0,70			0,52
34	8			0,68			0,56
35	9			0,62			0,66
36	10			0,63			0,66
37	11			0,65			0,65
48	12		0,48				0,65
49	13		0,53				0,59
50	14		0,79				0,54
51	15		0,50				0,69
52	16		0,52				0,60
53	17		0,57				0,58
54	18		0,75				0,58
58	19					0,62	0,61
64	20					0,53	0,66
68	21					0,68	0,58
72	22					0,53	0,63
74	23	0,50					0,63
75	24	0,75					0,62
76	25	0,68					0,60
77	26	0,68					0,68
82	27	0,67					0,64
	Özdeğer	10,907	2,046	1,270	1,072	1,030	
	Toplam açıklanan varyans	40,396	7,577	4,702	3,971	3,815	

SÖB: Spora özgü beslenme, EY: Ergojenik yardımcılar, VM: Vitamin ve mineraller, EK: Enerji kaynakları, BEF: Beslenmeyi etkile yen faktörler.

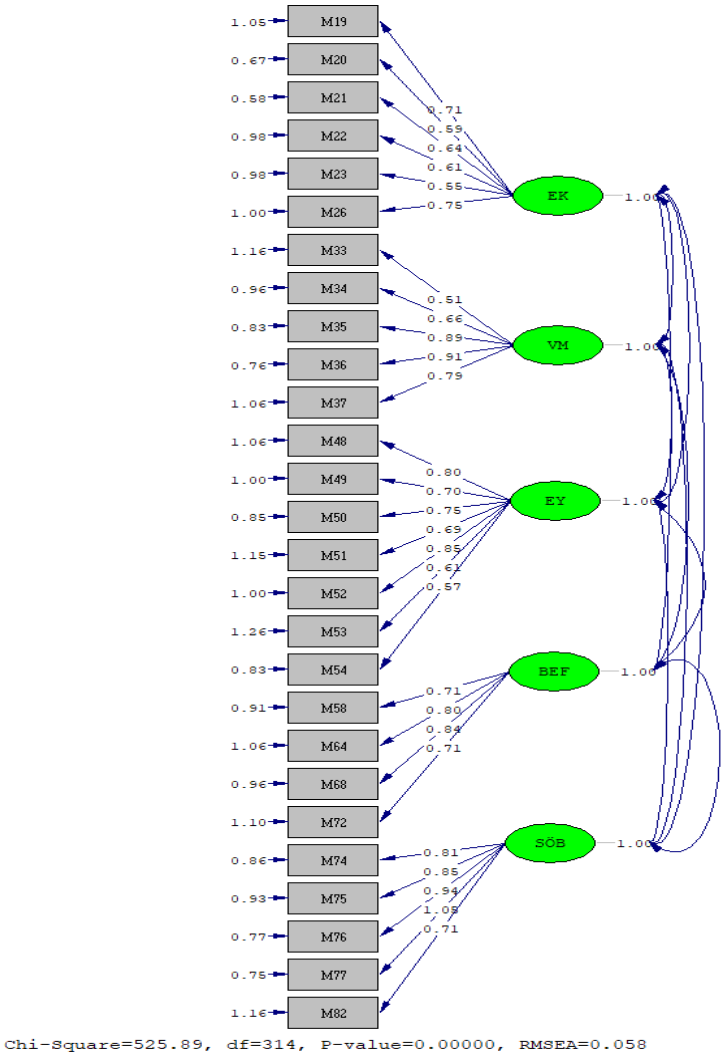
Analiz sonucunda ölçek maddelerinin faktör yük değerlerinin enerji kaynakları için 0,45-0,80, vitamin ve mineraller için 0,62-0,70, ergojenik yardımcılar için 0,48-0,79, beslenmeyi etkileyen faktörler için 0,53-0,68, spora özgü beslenme için 0,50-0,75 arasında olduğu belirlenmiştir. Madde test korelasyon değerlerinin 0,47 ile 0,69 arasında olduğu, tümünün 0,01 anlamlılık düzeyinde orta ve yüksek düzeyde ilişkili oldukları görülmüştür (*p<.01*).

Elde edilen dağılıma göre birinci alt boyut "spora özgü beslenme" (23, 24, 25, 26, 27), ikinci alt boyut "ergojenik yardımcılar" (12, 13, 14, 15, 16, 17, 18), üçüncü alt boyut "vitamin ve mineraller" (7, 8, 9, 10, 11), dördüncü alt boyut "enerji kaynakları" (1, 2, 3, 4, 5, 6), beşinci alt boyut "beslenmeyi etkileyen faktörler" (19, 20, 21, 22) olarak adlandırılmıştır. Ölçekte ters puanlanan madde mevcut değildir. Ölçek, Fikrim yok/Bilmiyorum (0), Kesinlikle yanlış (1), Emin değilim (2), Kesinlikle doğru (3)

cevaplarını içeren dörtlü Likert tipli olarak düzenlenmiştir. Ölçek maddelerine verilecek cevaplara göre toplamda alınabilecek en düşük puan 0, en yüksek puan 81'dir. Ölçekten alınan yüksek puan sporda beslenme farkındalık düzeyinin yüksek olduğu anlamına gelirken, düşük puan sporda beslenme farkındalık düzeyinin düşük olduğu anlamına gelmektedir.

Doğrulayıcı Faktör Analizi (DFA)

Yedi alt boyutlu modelin uyum iyiliği değerlerini belirlemek için farklı 200 veri grubu ile DFA yapılmıştır. Şekil 1'de modelin diyagramı verilmiştir.



Şekil 1. Modelin Path Diyagramı

Şekil 1 incelendiğinde maddelerle boyutları arasındaki yol katsayılarının enerji kaynakları için 0,55-0,75, vitamin ve mineraller için 0,51-0,91, ergojenik yardımcılar için 0,57-0,85, beslenmeyi etkileyen faktörler için 0,71-0,84, spora özgü beslenme için 0,71-1,05 arasında değiştiği gözlenmiştir. Alt boyutların açıkladıkları varyans ve ilişki değerlerinin orta ve üzeri olması nedeniyle bu değerlerin yeterli olduğu kabul edilmiştir.[39]

Tablo 2. DFA Uyum İyiliği İndeksi Değerleri

X^2	*sd*	x^2/sd	*p*	GFI	CFI	NFI	NNFI	SRMR	RMSEA	%90 C.J. RMSEA
525,89	314	1,67	0,00	0,84	0,96	0,91	0,96	0,064	0,058	0,048-0,062

Tablo 2'de DFA ölçüm değerleri, 27 maddeli 5 alt boyutlu modele ilişkin Ki-kare değeri $\chi 2$ (314, N=200)=525,89, p<0,01 olarak saptanmıştır. Yapılan hesaplama sonucunda $\chi 2/sd$=1,67 değeri ile iyi düzeyde bir değere sahip olduğu görülmüştür. DFA ölçümlerinde sıklıkla kullanılan uyum değerlerinden, RMSEA=0,058, SRMR=0,064, CFI=0,96, NFI=0,91, NNFI=0,96, GFI=0,84 ile iyi ve mükemmellik düzeyinde uyum değerlerinde olduğu saptanmıştır.[41] Ayrıca, RMSEA için %90 güven aralığı (GA) sınırının 0,049-0,067 arasında değiştiği bulunmuştur. RMSEA ve SRMR değerlerinin 10'dan küçük olması modelin kabul edilebilir düzeyde olduğunu göstermektedir.[42] Doğrulayıcı faktör analizinden elde edilen bulgular, ölçeğin faktör yapısının toplanan verilerle kabul edilebilir uyum gösterdiğine işaret etmektedir.

Ölçeğin Güvenirlik Çalışmaları

İç Tutarlılık ve Eş Değer Yarılar Güvenirlik Katsayıları

Ölçeğin güvenirliğini tespit etmek için iç tutarlılık ve eş değer yarılar güvenirlik katsayıları hesaplanmıştır ve değerler Tablo 3'te verilmiştir.

Tablo 3. İç Tutarlılık ve Eş Değer Yarılar Güvenirlik Katsayıları

Alt boyutlar	**İç tutarlılık (Cronbach Alpha)**
Spora özgü beslenme	0,784
Ergojenik yardımcılar	0,785
Vitamin ve mineraller	0,756
Enerji kaynakları	0,706
Beslenmeyi etkileyen faktörler	0,768
Toplam	0,928

Tablo 3'e göre, Cronbach Alpha değerleri toplamda 0,928, birinci alt boyut 0,784, ikinci alt boyut 0,785, üçüncü alt boyut 0,756, dördüncü alt boyut 0,706, beşinci alt boyut 0,768 olarak hesaplanmıştır. Ölçeğin güvenirlik katsayılarının iyi düzeyde olduğu ifade edilebilir. Korelasyon katsayısı her bir alt boyut için 0,700 ve üstünde ise güvenirlik için yeterli ve iyi bir düzeydir.[43]

Alt Üst Grup Ortalamalarına Dayalı Madde Analizi

Ölçeği oluşturan 5 alt boyut ve 27 maddenin her birinin madde ayırt edicilik özelliklerini belirlemek amacıyla, çalışma grubunu oluşturan 215 kişinin ölçekten aldıkları toplam puan ortalamaları küçükten büyüğe sıralanmış ve çalışma grubundaki alt ve üst grupların %27'si olmak üzere 58'er kişinin toplam puan ortalamaları ölçeğin tamamı, boyutlar ve her bir madde için t testi ile karşılaştırılmıştır.

Tablo 4. Alt-Üst Grup Ortalamalarına Dayalı T Testi Sonuçları

Alt boyutlar	Gruplar	X	Ss	t	p
Spora özgü beslenme	Üst grup	2,45	0,50	23,672	0,000*
	Alt grup	0,25	0,49		
Ergojenik yardımcılar	Üst grup	2,22	0,53	24,412	0,000*
	Alt grup	0,16	0,36		
Vitamin ve mineraller	Üst grup	2,16	0,60	22,045	0,000*
	Alt grup	0,15	0,34		
Enerji kaynakları	Üst grup	2,73	0,40	15,048	0,000*
	Alt grup	0,92	0,81		
Beslenmeyi etkileyen	Üst grup	2,65	0,45	21,930	0,000*
faktörler	Alt grup	0,48	0,60		
Toplam	Üst grup	2,43	0,27	38,744	0,000*
	Alt grup	0,39	0,29		

*p<0,01

Tablo 4'te ölçek maddelerinin toplamında ve tüm boyutlarda alt ve üst gruplar arasındaki toplam puan ortalamalarının arasında p<0,01 düzeyinde anlamlı bir farklılık olduğu görülmektedir.

SONUÇ VE ÖNERİLER

Toplam 415 sporcuyla (204 erkek ve 211 kadın) gerçekleştirilen bu çalışmada sporcuların beslenme bilgilerini değerlendirmek için sporda beslenme farkındalığı envanterinin geliştirilmesi amaçlanmıştır. Oluşturulan envanterde enerji kaynakları, vitamin ve mineraller, ergojenik yardımcılar, beslenmeyi etkileyen faktörler ve spora özgü beslenme alt başlıklarına yer verilmiştir. Başlangıçta 82 madde ve 7 alt boyuttan oluşan envanter AFA kapsamında döndürme öncesi toplam madde korelasyonu değeri 0,40 altında olan 7 madde ve döndürme işlemi sonrası belirlenen kesme noktasına göre faktör yükleri bakımından 0,35 altında kalan 48 madde olmak üzere toplam 55 madde çıkarıldıktan sonra ve toplam 27 madde ve 5 alt boyuttan oluşmuştur. Maddelerin geneli için faktör yüklerinin dağılımına bakıldığında, başlangıçta maddelerin 7 alt boyut altında toplanma eğilimi altında olduğu görülmüş ancak 27 madde için faktör analizi tekrar edildiğinde öz değeri 1,00'den büyük olan 5 alt boyut elde edilmiştir. Elde edilen 5 alt boyut beslenme farkındalığına ilişkin varyansın %60,461'ini karşılamaktadır ve varyansın %41 üzerinde olması kabul edilebilir sınırlar olarak belirtilmektedir.[40] Geliştirlen ölçek için yapılan DFA sonucunda alt başlıklar arasındaki yol katsayıları; enerji kaynakları için 0,55-0,75, vitamin ve mineraller için 0,51-0,91, ergojenik yardımcılar için 0,57-0,85, beslenmeyi etkileyen faktörler için 0,71-0,84, spora özgü beslenme için 0,71-1,05 arasında bulunmuştur. Bu da varyans ve ilişki değerlerinin orta ve üzeri olmasından dolayı bu değerlerin yeterli olduğu kanısına varılmıştır.[39] Ayrıca DFA uyum iyiliği indeksine göre de ölçeğin faktör yapısının toplanan verilerle uyum içerisinde olduğu anlaşılmaktadır. AFA ve DFA'dan elde edilen sonuçlar 27 maddeden ve 5 alt boyuttan oluşturulmuş ölçeğin geçerli düzeyde olduğunu göstermiştir. Cronbach Alpha ve eşdeğer yarılar yöntemi ile elde edilen sonuçlara bakıldığında ölçeğin tümü ve alt boyutları 0,70'ten yüksek olduğundan güvenirliğin yüksek olduğu görülmektedir. Bu bakımdan oluşturulan ölçek, Türk sporcularda beslenme bilgisi ve farkındalığının tespiti için kullanılabilecek bir araç olarak tavsiye edilebilir.

Bu tür ölçeklerin farklı kültürel bağlamlarda uyarlanmasının gerekliliği, daha önce yapılan çalışmalarla da desteklenmektedir. Özener ve arkadaşları (2020) tarafından ilk olarak Yeni Zelandalı katılımcılarla toplanan bilgilerle oluşturulan bir ölçeğin Türkçeye uyarlandığı görülmüştür. Kültürlere dayalı olarak ortaya çıkan beslenme farklılıkları bakımından ölçek orijinalinde bulunan maddelerin tamamının Türk katılımcılara uygun olmadığı görülmüş ve bazı maddelerde yer alan besin öğeleri

Türk beslenme kültürüne uygun olarak değiştirilmiştir. Bu nedenle bir ölçek oluşturulurken veya uyarlanırken maddelerde bulunan besin öğelerinin, anketin veya ölçeğin uygulanacak hedef grubun beslenme kültürüne uygun olarak hazırlanması gerektiği anlaşılmaktadır. Söz konusu ölçek uyarlama çalışması sonuçlarına göre uyarlanan envanterin geçerlik ve güvenirlik bakımından kullanışlı olduğu vurgulanmaktadır ancak yazarların kendilerinin de belirttiği üzere ölçek faktör analizine tabi tutulmamıştır. Diğer yandan uyarlanan söz konusu ölçek 78 madde içeren 5 alt boyuttan oluşmaktadır.[44] Ölçeğin ilk kez ortaya konulduğu çalışmada da benzer şekilde faktör analizlerinin uygulanmadığı görülmekle birlikte, çalışmada oluşturulan ölçeğin sporcu beslenmesi bilgi düzeyinin belirlenmesinde ilk adım olarak kullanılabileceği ve psikometrik saptamaların gelişimi için ileri çalışmalara ihtiyaç olduğu vurgulanmaktadır.[26] Söz konusu ölçek ilk kez Britanyalılarda uygulanmış ancak Britanyalılarla aynı dili konuşan Avustralyalı ve ABD'li sporculara uygulandığında dahi en yüksek skorun Britanyalılarda gözlendiği ve ABD'lilerde en düşük skorun bulunduğu görülmektedir.[45] Bu da beslenme bilgi düzeyini veya spora özgü beslenme bilgi düzeyini ölçmek üzere oluşturulan envanterlerin hedef popülasyonun kültürüne ve beslenme alışkanlıklarına uygun olarak geliştirilmesinin gerektiğini göstermektedir. Bu bağlamda, kültürel uyarlama sürecinin önemini vurgulayan bir diğer çalışma ise İtalya'da öğrenim gören 188 ekonomi, diyetetik ve spor bilimleri öğrencileriyle genel beslenme ve sporcu beslenmesi bilgi düzeyini ölçmek amacıyla yapılan bir çalışmada, araştırmacılar tarafından İtalyanlara özgü yeni oluşturulan ve daha önce başka araştırmacılar tarafından uyarlanan ölçekler kıyaslanmıştır. Uyarlanan ve yeni oluşturulan ölçekler arasında korelasyon kat sayılarının düşük olduğu gözlenmiştir. Araştırmacılar tarafından İtalyan kültürüne dayalı olarak tüketim alışkanlıklarını yansıtan ölçek nihai olarak 10 alt başlıktan ve 62 maddeden oluşturulmuştur. Oluşturulan genel beslenme bilgi anketi (Cronbach's alpha: 0,84) ve sporcu beslenmesi bilgi anketi (Cronbach's alpha: 0,71) çerçevesinde diyetetik öğrencileri ve uzmanlarının hem spor bilimleri alanında hem de ekonomi eğitimine sahip olanlardan daha yüksek puan aldıkları gözlenmiştir. Ancak sporcu beslenmesi bilgi anketi ekonomi eğitimi gören ve spor bilimleri eğitimi görenler arasında kıyaslandığında, spor bilimleri alanından katılımcıların daha yüksek puana sahip olduğu ve bu nedenle sporcularda beslenme bilgi düzeyini ölçmek için kullanışlı olduğu belirtilmiştir.[46] Mevcut çalışmaya benzer şekilde Alman sporcu ve antrenörler için oluşturulan ölçekte geçerlik ve güvenirliğinin test edildiği başka bir çalışmada ise alt boyutlar 5'ten 3'e ve başlangıçta belirlenen 63 madde son versiyonda 29 maddeye düşürülmüştür. İç tutarlılık için Cronbach's alpha 0,87 ve test tekrarlanabilirliği için korealasyon katsayısı 0,61 olarak rapor edilmiştir.[47] Çalışmalar incelendiğinde envanterleri yanıtlayan katılımcılar arasında beslenme ve/veya diyetetik eğitimi almış veya alan kişiler de bulunmaktadır ve bu kişilerin envanterden aldıkları puanların sporculara göre daha yüksek olduğu görülmektedir.[46,44,47] Bu durum geçerlik ve güvenirlik puanlarında envanteri yanıtlayan katılımcıların coğrafyaya dayalı kültürleri kadar eğitim durumlarının da etkili olduğunu göstermektedir. Bu çalışmada geliştirilen envanterde beslenme ve sporcu beslenmesi konusunda özelleşmiş bir akademik eğitim almış katılımcılar olmamasına rağmen envanterin güvenirlik ve geçerlik puanları diğer incelenen çalışmalardaki geçerlik ve güvenirlik puanlarıyla kabul edilebilir düzeyde tutarlılık göstermektedir. Mevcut çalışmada geliştirilen sporda beslenme farkındalığı envanterinin tüm alt boyutları için korelasyon kat sayıları 0,70 üzerinde bulunmuştur ve bu da geliştirilen envanterin sporcuların beslenme konusundaki bilgi düzeylerinin değerlendirilmesi için geçerli bir araç olabileceğini göstermektedir.

Genel beslenme veya spora özgü beslenme bilgi düzeyini ölçmeye yönelik oluşturulan envanterlerde hedef popülasyonun beslenme kültürü etkili olduğu gibi envanter oluşturulma aşamasında geçerlik ve güvenirlik test skorlarının ortaya çıkarıldığı

spor dalları ve mevcut bilgi düzeyleri de önemli unsurlar olabilmektedir. Vazquez-Espino ve arkadaşları (2020) tarafından makro besinler, mikro besinler, hidrasyon ve besin alımı alt boyutlarında, oluşturulan envanterin iç tutarlılık ve test tekrarlanabilirlik değerleri sırasıyla 0,849 ve 0,895 bulunduğu belirtilmiştir. Diyetetik öğrencileri, sporcular ve sporcu olmayan toplam 445 kişiyle tamamlanan çalışmada geliştirilen envanterin sporcularda beslenme bilgi düzeyinin ölçülmesi için elverişli bir araç olduğu belirtilmiştir. Bununla birlikte geliştirilen bu envanterin takım sporcuları için daha uygun olduğu, bireysel sporcular veya başka popülasyonlar için kullanılması amaçlandığı takdirde yeniden geçerlik testine tabi tutulması gerektiği vurgulanmıştır.[48] Bu çalışmada ortaya çıkan bu öneri yeniden oluşturulan envanterlerin hedef gruplar gözetilerek geliştirilmesinin üzerinde önemle durulması gereken bir durum olduğunu göstermektedir. Türk sporcular için yeni bir envanterin geliştirildiği mevcut çalışmamızda herhangi bir spor dalı hedef grup olarak belirlenmemiş ve farklı spor dallarına mensup katılımcıların anketi cevaplaması hedeflenmiştir. Spor dalları bakımından hetorojen bir katılımcı grubu olmasına rağmen envanterin alt boyutları da dâhil kabul edilebilir geçerlik ve güvenirlik değerleri elde edilmiştir.

Sporcuların beslenme bilgi veya farkındalıklarının tespitini amaçlayan envanterler ele alındığında amaca uygunluğu ve tamamlanma süresi üzerinde durulması gereken bir diğer önemli konudur. Trakman ve arkadaşları (2018) tarafından yapılan çalışmada Rasch modele uygun olarak sporculara özgü olarak geliştirilen ve kısaltılan envanterin, orijinal envantere göre tamamlanma süresinin yarı yarıya düştüğü (genel anket 25 dk. ve spora özgü anket 12 dk.) ve istatistiki bakımdan da benzer sonuçların görüldüğü aktarılmıştır. Diğer yandan söz konusu çalışmada sporculara özgü beslenme bilgi düzeyini ölçmek için oluşturulan envanterin sonuçlarına göre sporcuların hidrasyon, mikro besinler ve takviyeler konusunda bilgi düzeylerinin düşük olduğu bulunmuştur.[49] Mevcut çalışmamızda geliştirilen envanterde belirlenen alt boyutlar incelendiğinde, 27 maddeden oluşturulan 5 alt boyut ve içeriklerinin Trakman ve arkadaşları (2018) tarafından ortaya koyulan sonuçlarla örtüştüğü anlaşılmaktadır.[28] Bu çalışmada hidrasyonla ilgili sorulara vitaminler ve mineraller (mikro besinler) alt başlığında yer verilmiş olup takviyeler için doğrudan "ergojenik yardımcılar" alt boyutu bulunmaktadır. Bauhaus ve arkadaşları (2023) çalışmasında da anketin cevaplanma süresinin 10-15 dk. arasında olduğu belirtilmektedir.[47] Anketlerin cevaplanma süresiyle ilgili olarak yapılan bir sistematik derlemede yanıt oranlarının optimal bir düzeye getirilmesi için ideal cevaplama süresi ortalama 13 dk. olarak bulunmuştur.[50] Mevcut çalışma kapsamında geliştirilen envanterde cevaplama süresi de yaklaşık 10 dk. olarak bulunmuştur. Optimal süre bakımından, geliştirilen bu anketin tamamlanma süresi de son yıllarda ortaya konulan sonuçlarla paraleldir. Bu bakımdan mevcut çalışmamız kapsamında oluşturulan ölçek hem faktör analizlerine dayalı olarak ortaya konulan geçerlik-güvenirlik puanları bakımından olduğu gibi hem de toplam 27 maddeden oluşması ve yanıtlanma süresinin kısa olması nedeniyle zaman bakımından da sporcularda beslenme bilgi düzeyi ve farkındalıklarının tespiti için kullanışlı bir veri toplama aracı olarak kabul edilebilir. Yukarıda bahsi geçen diğer çalışmalardan farklı olarak mevcut çalışmada sadece sporcu popülasyon çalışmaya dahil edilmiştir. Bu konuda yapılan bazı çalışmaların sonuçlarından da anlaşılacağı üzere beslenme ve diyetetik konusunda eğitime sahip olan kişilerin beslenme konusundaki farkındalıkları ve bilgi düzeyleri sporcu popülasyona göre daha yüksek çıkmaktadır.[46,44,51] Diğer önemli husus da oluşturulan envanterlerin genellenebilirliğidir. Bu konuda örneklem büyüklüğü ve spor dallarının çeşitliliği oluşturulan envanterlerin genellenebilirliği konusunda önemli etkenlerdir. Mevcut çalışmada geniş bir örneklem olmakla birlikte sadece sporcu katılımcıların olduğu düşünüldüğünde elde edilen geçerlik ve güvenirlik skorlarına dayalı olarak yer alan maddelerin sporcuların bilgi düzeylerini

ölçmeye elverişli olduğu anlaşılmıştır. Trakman ve arkadaşları (2016) tarafından yayınlanan sistematik derlemede geliştirilen birçok ölçeğin alt boyutları oluşturulurken veya madde elemeleri yapılırken faktör analizlerinin veya Rasch analizinin yapılmadığı, bu nedenle de bu ölçekler için bu durumunun geçerlik ve güvenirlik konusunda sınırlılık olarak kabul edilebileceği belirtilmiştir.[45] Çalışmamız kapsamında oluşturulan envanterde bulunan tüm alt boyutlar ve maddeleri için faktör analizleri yapılmış olup analizler sonucunda elde edilen istatistiki sonuçlar neticesinde geçerlik ve güvenirlik için yeterli değere sahip oldukları görülmektedir.

Bu çalışma neticesinde Türkçe dilinde farklı spor dallarına mensup sporcuları hedef alarak oluşturulan bu envanter literatürdeki diğer bazı envanterlerle kıyaslandığında, doğrudan Türk beslenme kültürünü hedef alarak oluşturulduğundan yanıtlanması kolay ve diğer envanterlere kıyasla daha az sayıda maddeden oluştuğundan zaman kazandıracak bir yapıdadır. Bu envanterde; enerji kaynakları, vitamin ve mineraller, ergojenik yardımcılar, beslenmeyi etkileyen faktörler ve spora özgü beslenme olarak belirlenen alt boyutlarla birlikte Türk sporcuların bu başlıklarda bilgi düzeylerinin tespitiyle hangi konularda bilinçlendirilmeleri ve farkındalıklarının artırılması gerektiği konusunda durum tespiti yapmaya yönelik kullanışlı bir envanter oluşturulduğu düşünülmektedir. Gelecekte yapılacak çalışmalarda bu envanter spor branşlarının beslenme bilgi düzeylerini karşılaştıracak şekilde uygulanarak farklı dallardaki sporcuların beslenme eğitimine yönelik stratejiler geliştirilebilir.

KAYNAKLAR

1. World Health Organization (2024). "Nutrition". Erişim adresi: http://www.who.int/topics/nutrition/en/ (Erişim tarihi: 01.01.2024).
2. Beauman, C. (2005). "The Principles, Definition and Dimensions of the New Nutrition Science". Public Health Nutrition, 8 (6a), 695-698.
3. American College of Sports Medicine, American Dietetic Association, Dieticians of Canada. Med Sci Sports Exerc. 2009;41(3):709–731.
4. Irandoust, K. (2023). "The Interplay of Nutrition, Physiology, and Performance in Sports: A Comprehensive Review". Health Nexus, 1 (3), 21-30.
5. Potgieter, S. (2013). "Sport nutrition: A Review of the Latest Guidelines for Exercise and Sport Nutrition from the American College of Sport Nutrition, the International Olympic Committee and the International Society for Sports Nutrition". South African Journal of Clinical Nutrition, 26 (1), 6-16.
6. Gleeson, M. (2016). "Immunological Aspects of Sport Nutrition". Immunology and Cell Biology, 94 (2), 117-123.
7. Close, G.L, Hamilton, D.L, Philp, A, Burke, L.M. and Morton, J.P. (2016). "New Strategies in Sport Nutrition to İncrease Exercise Performance". Free Radical Biology and Medicine, 98, 144-158.
8. Snijders, T, Trommelen, J, Kouw, I, Holwerda, A.M, Verdijk, L.B. and van Loon, L. (2019). "The Impact of Presleep Protein Ingestion on the Skeletal Muscle Adaptive Response to Exercise in Humans: An Update". Frontiers in Nutrition, 6, 17.
9. Taghiyar, M, Darvishi, L, Askari, G, Feizi, A, Hariri, M, Mashhadi, N.S. and Ghiasvand, R. (2013). "The Effect of Vitamin C and e Supplementation on Muscle Damage and Oxidative Stress in Female Athletes: A Clinical Trial". International Journal of Preventive Medicine, 4 (1), 16.
10. McArdle, W.D, Katch, F.I. and Katch, V.L. (2012). "Sports and Exercise Nutrition". (4 Edition), Fourth North American, LWW.
11. Mitchell, J.W, Nadel, E.R. and Stolwijk, J.A. (1972). "Respiratory Weight Losses During Exercise". Journal of Applied Physiology, 32, 474–476.
12. Kashani, A, Keshavarz, S.A, Jafari-Vayghan, H, Azam, K, Hozoori, M, Alinavaz, M. and Djafarian, K. (2022). "Preventive Effects of Spirulina Platensis on Exercise-induced Muscle Damage, Oxidative Stress and İnflammation in Taekwondo Athletes: A Randomized Cross-over Trial". Journal of Pharmaceutical Sciences, 28 (4), 89–595.
13. Pinckaers, P.J, Hendriks, F.K, Hermans, W.J, Goessens, J.P, Senden, J.M, Van Kranenburg, J.M. and Van Loon, L.J. (2022). "Potato Protein İngestion İncreases Muscle Protein Synthesis Rates at Rest and During Recovery from Exercise in Humans". Medicine and Science in Sports and Exercise, 54 (9), 1572.
14. Sureda, A, Mestre-Alfaro, A, Banquells, M, Riera, J, Drobnic, F., Camps, J, Joven, J, Tur, J.A. and Pons, A. (2015). "Exercise in a Hot Environment İnfluences Plasma Anti-İnflammatory and Antioxidant Status in Well-trained Athletes". Journal of Thermal Biology, 47, 91-98.
15. Rebold, M.J, Kobak, M.S. and Otterstetter, R. (2013). "The İnfluence of a Tabata İnterval Training Program Using an Aquatic Underwater Treadmill on Various Performance Variables". The Journal of Strength & Conditioning Research, 27 (12), 3419-3425.
16. Grout, A, McClave, S.A, Jampolis, M.B, Krueger, K, Hurt, R.T, Landes, S. and Kiraly, L. (2016). "Basic Principles of Sports Nutrition". Current Nutrition Reports, 5, 213-222.
17. Mcanulty, S.R, Nieman, D.C, Mcanulty, L.S, Lynch, W.S, Jin, F. and Henson, D.A. (2011). "Effect Of Mixed Flavonoids, n-3 Fatty Acids, And Vitamin C On Oxidative Stressand Antioxidant Capacity Before And After İntense Cycling". International Journal Of Sport Nutrition And Exercise Metabolism, 21, 328–337.
18. Burkhart, S.J. and Coad, J. (2010). "Assessment of Nutritional Knowledge and Food Skills in Talented Adolescent Athletes". In Proceeding of the Nutrition Society of New Zealand, 34, 77-80.
19. Spronk, I, Heaney, S.E, Prvan, T. and O'Connor, H.T. (2015). "Relationship Between General Nutrition Knowledge and Dietary Quality in Elite Athletes". International Journal of Sport Nutrition and Exercise Metabolism, 25 (3), 243-51.
20. Supriya, V. and Ramaswami, L. (2013). "Knowledge, Attitude and Dietary Practices of Track and Field Athletic Men and Women Aged 18-22 Years". International Journal of İnnovative Research and Development, 2 (11), 399-404.
21. Froiland, K, Koszewski, W, Hingst, J. and Kopecky, L. (2004). "Nutritional Supplement Use Among College Athletes and Their Sources of İnformation". International Journal of Sport Nutrition and Exercise Metabolism, 14, 104-120.
22. Rosenbloom, C.A, Jonnalagadda, S.S. and Skinner, R. (2002). "Nutrition Knowledge of Collegiate Athletes in a Division I

National Collegiate Athletic Association İnstitution". Journal of the American Dietetic Association, 102 (3), 418–420.
23. Zawila, L.G, Steib, C.M. and Hoogenboom, B. (2003). "The Female Collegiate Cross-Country Runner: Nutritional Knowledge and Attitudes". Journal of Athletic Training, 38 (1), 67–74.
24. Jessri, M, Jessri, M, Rashidkhani, B. and Zinn, C. (2010). "Evaluation of Iranian College Athletes' Sport Nutrition Knowledge". International Journal of Sport Nutrition and Exercise Metabolism, 20, 257-263.
25. Spendlove, J.L, Heaney, S.E, Gifford, J.A, Pvan, T, Denyer, G.S. and O'Connor, H.T. (2012). "Evaluation of General Nutrition Knowledge in Elite Australian Athletes". British Journal of Nutrition, 107, 1871-1880.
26. Zinn, C, Schofield, G. and Wall, C. (2005). Development of a Psychometrically Valid and Reliable Sports Nutrition Knowledge Questionnaire". Journal of Science and Medicine in Sport, 8 (3), 346-351
27. Torres-McGehee, T.M, Pritchett, K.L, Zippel, D, Minton, D.M, Cellamare, A. and Sibilia, M. (2012). "Sports Nutrition Knowledge Among Collegiate Athletes, Coaches, Athletic Trainers, and Strength and Conditioning Specialists". Journal of Athletic Training, 47 (2), 205-211.
28. Trakman, G.L, Forsyth, A, Hoye, R. and Belski, R. (2018). "Development and Validation of a Brief General and Sports Nutrition Knowledge Questionnaire and Assessment of Athletes' Nutrition Knowledge". Journal of the International Society of Sports Nutrition, 15, 1-8.
29. Blennerhassett, C, McNaughton, L.R, Cronin, L. and Sparks, S.A. (2019). "Development and İmplementation of a Nutrition Knowledge Questionnaire for Ultraendurance Athletes". International Journal of Sport Nutrition and Exercise Metabolism, 29 (1), 39-45.
30. Karpinski, C.A, Dolins, K.R. and Bachman, J. (2019). "Development and Validation of a 49-Item Sports Nutrition Knowledge Instrument (49-SNKI) for Adult Athletes". Topics in Clinical Nutrition, 34 (3), 174-185.
31. Cattell, R.B. (1978). "The Scientific Use of Factor Analysis". New York: Plenum Press.
32. Comrey, A.L. and Lee, H.B. (1992). "Interpretation and Application of Factor Analytic Results". Hillsdale, NJ: Lawrence Eribaum Associates.
33. Burns, N. and Susan, K.G. (2005). "The Practice of Nursing Research Conduct". Philadelphia: Saunders
34. Tabachnick, B.G. and Fidell, L.S. (2001). "Using Multivariate Statistics". California State Universirt: Pearson Education Company.
35. Hair, J.F, Black, W.C, Babin, B.J. and Anderson, R.E. (2009). "Multivariate Data Analysis". NJ: Prentice Hall.
36. Preacher, K.J. and MacCallum, R.C. (2002). "Exploratory Factor Analysis in Behavior Genetics Research: Factor Recovery with Small Sample Sizes". Behavior Genetics, 32 (2), 153-161.
37. DeVellis, R.F. and Thorpe, C.T. (2021). "Scale Development: Theory and Applications. London: Sage publications.
38. Bryman, A. and Cramer, D. (1999). "Quantitative Data Analysis with SPSS Release 8 for Windows". London: Routledge.
39. Büyüköztürk, Ş. (2010). "Sosyal Bilimler İçin Veri Analizi El Kitabı: İstatistik, Araştırma Deseni, SPSS Uygulamaları ve Yorum". (12. baskı), Ankara: Pegem Akademi.
40. Kline, R.B. (2011). "Principles and Practice of Structural Equation Modeling". (3nd ed.), New York London: The Guilford.
41. Hu, L. T. and Bentler, P.M. (1999). "Cutoff Criteria for Fit İndexes in Covariance Structure Analysis: Conventional Criteria Versus New Alternatives". Structural Quation Modeling: A Multidisciplinary Journal, 6 (1), 1-55.
42. Cole, D.A. (1987). "Utility of Confirmatory Factor Analysis in Test Validation Research". Journal of Consulting and Clinical Psychology, 55, 1019-1031.
43. DeVellis, R.F. (2022). "Güvenirlik". T. Totan (Çev. Ed.). "Ölçek Geliştirme Kuram ve Uygulamalar". Ankara: Nobel Akademi Yayınları.
44. Ozener, B, Karabulut, E, Kocahan, T. and Bılgıc, P. (2021). "Validity and Reliability of the Sports Nutrition Knowledge Questionnaire for the Turkish athletes". Marmara Medical Journal, 34 (1), 45-50.
45. Trakman, G.L, Forsyth, A, Devlin, B.L. and Belski, R. (2016). "A Systematic Review of Athletes' and Coaches' Nutrition Knowledge and Reflections on the Quality of Current Nutrition Knowledge Measures". Nutrients, 8 (9), 570.
46. Calella, P, Iacullo, V.M. and Valerio, G. (2017). "Validation of a General and Sport Nutrition Knowledge Questionnaire in Adolescents and Young Adults. GeSNK". Nutrients, 9 (5), 439.
47. Bauhaus, H, Jensen, P.M, Braun, H. and Thevis, M. (2023). "Evaluation of Validity and Reliability of a German General and Sports Nutrition Knowledge Questionnaire for Athletes and Coaches (GSNKQ-AC)". Nutrients, 15 (22), 4844.
48. Vázquez-Espino, K, Fernández-Tena, C, Lizarraga-Dallo, M.A. and Farran-Codina, A. (2020). "Development and Validation of a Short Sport Nutrition Knowledge Questionnaire for Athletes". Nutrients, 12 (11), 3561.
49. Trakman, G.L, Forsyth, A, Hoye, R. and Belski, R. (2017). "The Nutrition for Sport Knowledge Questionnaire (NSKQ): Development and Validation Using Classical Test Theory and Rasch Analysis". Journal of the International Society of Sports Nutrition, 14, 1-11.
50. Fan, W. and Yan, Z. (2010). "Factors Affecting Response Rates of the Web Survey: A Systematic Review". Computers in Human Behavior, 26 (2), 132-139.
51. Edmonds, C, Tam, R, Madigan, S, Gubb, L, Beck, K.L, Gifford, J.A, Flood, V.M, Prvan, T, Gemming, L.N. and O'Connor, H. (2023). "Validation of a Sports Nutrition Knowledge Questionnaire for Athletes in the United Kingdom and Ireland". Journal of Nutritional Science, 12, e2.

Ek 1. Sporda Beslenme Farkındalığı Envanteri

Sporda Beslenme Farkındalığı Envanteri

Değerli katılımcı,

Aşağıda sporda beslenme bilginizi değerlendirmede etkili olabileceği düşünülen bazı ifadelere yer verilmiştir. Lütfen bu ifadelerin sizin için doğruluk derecesini liste üzerinde ayrılan alana işaretleyiniz. Sorulara vereceğiniz yanıtlar araştırmanın bilimsel değer kazanmasına büyük katkı sağlayacaktır.

Katılımınız için teşekkür ederiz.

		Fikrim yok, bilmiyorum	Kesinlikle yanlış	Emin değilim	Kesinlikle doğru
1	Glikoz, hücresel metabolizma için temel enerji kaynağı ve merkezi sinir sistemi (beyin) için birincil yakıttır.				
2	Kan şekeri düştüğünde, zihinsel yorgunluk başlar ve bu da kaslarda ne kadar enerji depolandığına bakılmaksızın kas yorgunluğuna neden olur.				
3	Yapılan egzersizin şiddeti arttıkça egzersiz sırasında kullanılan karbonhidratın miktarı da artar.				
4	Egzersiz sonrası rafine karbonhidrat tüketimi sporcunun daha kısa sürede toparlanmasına katkı sağlayabilir.				
5	Düşük kan şekeri insülin yanıtını yükseltir ve bu da kan şekerinin aniden düşmesine neden olur. Bu durumu engellemek için sık ve dengeli beslenmek gerekmektedir.				
6	Sporcular antrenmandan sonraki 4 saate kadar sık aralıklarla, saatte vücut kütlesinin kilogramı başına 1,0-1,2 g karbonhidrat tüketmelidir.				
7	Vitamin C'nin uzun süreli şekilde günde 1 g veya daha fazla kullanımı böbrek taşı oluşumu riskini artırmaktadır.				
8	Sporcular için önerilen Vitamin D miktarı günlük 15 mikrogramdır.				
9	Antioksidan etki gösteren en önemli vitamin ve mineraller Vitamin C, Vitamin E, Selenyum ve beta karotendir.				
10	Az miktarda alınan sodyum bikarbonat (0,2 g/kg) yüksek yoğunluklu, anaerobik aktivitelerde üretilen laktatın tamponlanmasına yardımcı olabilmektedir.				
11	Vitamin B1, B2, B3, B6, pantotenik asit, kolin, Vitamin C, bakır veya çinko alımı sporcularda da görülebilen iştahsızlığa karşı etkili olmaktadır.				
12	Ergojenik yardımcılar; farmakolojik, fizyolojik, psikolojik ve mekanik alt başlıklarıyla birlikte beslenmeyle ilgili yardımcılar grubunu da içerir ve örneğin karbonhidrat yüklemesi beslenmeyle ilgili ergojenik yardımcılardan biridir.				
13	Beş günlük kreatin takviyesinin kas dokusunda kreatin doygunluğuna neden olduğuna dair kanıtlar vardır. Bu nedenle 5 günlük kreatin yüklemesinin ardından kreatin alımına 5 gün ara verilmelidir.				
14	Kreatin monohidrat günde dört doza bölünmüş olarak toplam 10-28 gram arasında kullanılır.				
15	Ergojenik yardımcı olarak kullanılan kafein tüm kahve çeşitlerinde aynı miktarda değildir. 250 ml hazır kahvede kafein miktarı 50-70 mg iken demlenmiş kahvede bu miktar 100-150 mg'dır.				
16	İnsan vücudu kafeine adapte olabilmekte, ergojenik etkiyi görebilmek için her seferinde daha fazla kafeine ihtiyaç duymaktadır. Bu nedenle önemli yarışlardan yaklaşık 7-14 gün önce kafein alımını sonlandırmak yarıştan önce kafein kullanımının olumlu etkilerini ortaya çıkaracaktır.				
17	Pancar suyu yüksek şiddetli aktivitelerde ve takım sporlarında performansı %3-5, dayanıklılık egzersizlerinde tükenme zamanını %4-25 oranında geliştirmektedir.				

Ek 1. Sporda Beslenme Farkındalığı Envanteri (Devamı)

18	Nitrik oksit, kan akışının düzenlenmesi, vazodilatasyon yoluyla oksijen iletiminin iyileştirilmesi, kas kasılması, glukoz homeostazı, kalsiyum homeostazı ve mitokondriyal solunum ve biyogenez dâhil olmak üzere çeşitli yollarla iskelet kası fonksiyonunu modüle eden bir sinyal molekülüdür.				
19	Yaşlı sporcular gençlere oranla daha fazla Vitamin B6, B12, C, D, E ve kalsiyum alımına ihtiyaç duyabilmektedir.				
20	Yeterli kalori alımı, demir, Vitamin B12 ve folik asit tüketimi, sporcuların yüksek irtifa ortamına daha iyi uyum sağlamasına yardımcı olmaktadır.				
21	Kadın sporcuların normal beslenme programlarında özellikle Vitamin D, kalsiyum ve demir eksikliğine dikkat etmeleri gerekmektedir.				
22	Yaşlı sporcularda protein alımı daha küçük oranlarda ve gün içinde daha çok sayıda öğünle karşılanmalıdır.				
23	Anaerobik aktiviteler sırasında kaslarda yakıt olarak fosfokreatin ve glikojen kullanılmaktadır bu nedenle karbonhidrat alımını sınırlayarak bunun yerine fazla protein alımını destekleyen diyetlerin performans üzerinde olumsuz etki yarattığı bilinmektedir.				
24	Kas gelişimi üzerinde en etkili olan besin destekleri; beta-hidroksi beta-metilbutirat (HMB), kreatin monohidrat, esansiyel aminoasitler ve proteindir.				
25	Yüksek şiddetli ve aralıklı aktivitelerde enerji üretimi genellikle karbonhidratlara dayanır ve bu nedenle sporcuların günde vücut ağırlıklarının kg'ı başına 7-8 g karbonhidrat tüketmesi önerilir.				
26	Yüksek şiddetli ve aralıklı aktivitelerde kas doku sentezi ve kreatin miktarını koruyabilmek için sporcuların günde vücut ağırlıklarının kg'ı başına yaklaşık 1,5 g protein tüketmesi önerilir.				
27	Günde vücut ağırlığının kg'ı başına 2,5 g'dan fazla protein alımı ekstra performans artışı sağlamamaktadır.				

Envanterde yer alan 1-6. sorular 'enerji kaynakları', 7-11. sorular 'vitamin ve mineraller', 12-18. sorular 'ergojenik yardımcılar', 19-22. sorular 'beslenmeyi etkileyen faktörler' ve 23-27. sorular da 'spora özgü beslenme' alt boyutlarına aittir.

Envanter değerlendirilirken alınabilecek en düşük puan 0 ve en yüksek puan 81'dir.

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Asemptomatik Kadınlarda Manyetik Mantar Topla Yapılan Plantar Fasya Gevşetmesinin Hamstring ve Lumbal Omurga Esnekliği Üzerine Etkisinin İncelenmesi: Randomize Kontrollü Çift Kör Çalışma

Evaluation of the Effect of Plantar Fascia Release with Magnetic Cork Ball on Hamstring and Lumbar Spine Flexibility: A Randomized Controlled Double-Blind Study

Ömer Osman PALA[1], Ayşe NUMANOĞLU AKBAŞ[2], Elif DUYGU YILDIZ[1]

ÖZ

Hamstring ve lumbal omurga esnekliğini artırmak için literatürde çeşitli materyaller ile self miyofasyal gevşeme (SMG) uygulamaları yapılmaktadır. Bu çalışmanın amacı non-semptomatik kadınlarda manyetik ve sham top ile yapılan plantar SMG'nin hamstring ve lumbal omurga esnekliğine etkisini karşılaştırmak ve değerlendirmekti.

18-30 yaş arası toplam non-semptomatik 26 kadın manyetik fasya topu (MFT) grubu ve sham fasya topu (SFT) gruplarına rasgele şekilde dağıtıldı. Bireyler ve değerlendirici körlendi. Hamstring esneklikleri, otur-uzan testi ve gonyometrik ölçüm ile uygulama öncesinde ve sonrasında değerlendirildi. Bireyler oturma pozisyonunda dağıtıldıkları gruba göre 3 dk boyunca ayaklarının altında manyetik mantar top ya da sham mantar top çevirdi.

Gruplar fiziksel, demografik ve hamstring esnekliği açısından benzerdi ($p>0.05$). Uygulama sonrasında MFT grubunda otur-uzan test skorları ve sağ hamstring esnekliği artmış ($p=0.005$, $p=0.041$), sol hamstring esnekliğinde istatistiksel olarak anlamlı bir değişim bulunmamıştır ($p=0.625$). SFT grubunda otur-uzan testi skorları ($p=0.004$) ve hamstring esnekliğinin her iki ekstremitede de arttığı bulunmuştur ($p=0.028$, $p=0.025$). Otur-uzan test skorları ve gonyometrik ölçümlerde gruplar arasında fark bulunmamıştır ($p>0.05$).

Non-semptomatik yetişkinlerde plantar fasya için mantar top ile SMG uygulaması anlık olarak hamstring esnekliğini artırabilmektedir. Manyetik fasya topunun ise, hamstring ve esnekliğini artırmada sham fasya topuna göre bir üstünlüğü olmadığı belirlenmiştir.

Anahtar Kelimeler: Plantar fasya, Esneklik, Self miyofasyal gevşetme, Magnet

ABSTRACT

Self myofascial release (SMR) applications with various materials have been performed in the literature to increase hamstring and lumbal spine flexibility. The aim of this study was to compare and evaluate the effect of plantar SGM with magnetic and sham balls on hamstring and lumbar spine flexibility in non-symptomatic women.

A total of 26 non-symptomatic women aged 18–30 years were randomly assigned to the magnetic fascia ball (MFT) group and the sham fascia ball (SFT) group. Individuals and the assessor were blinded. Hamstring flexibility was assessed by a sit and reach test and goniometric measurement before and after the intervention. Individuals rolled a magnetic fascia ball or a sham fascia ball under their feet for 3 minutes, depending on the group they were assigned to in the sitting position.

The groups were similar in terms of physical, demographic and hamstring flexibility ($p>0.05$). After the intervention, sit and reach test scores and right hamstring flexibility increased in the MFT group ($p=0.005$, $p=0.041$), while no statistically significant change was found in the left hamstring flexibility ($p=0.625$). In the SFT group, sit and reach test scores ($p=0.004$) and hamstring flexibility increased in both extremities ($p=0.028$, $p=0.025$). There was no difference between the groups in sit-stand test scores and goniometric measurements ($p>0.05$).

In non-symptomatic adults, SMR with a fascia ball for the plantar fascia can increase hamstring flexibility instantaneously. The magnetic fascia ball was not superior to the sham fascia ball in increasing hamstring and flexibility.

Keywords: Plantar fascia, Flexibility, Self myofascial release, Magnet

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[1]Dr. Öğr. Üyesi, Ömer Osman PALA, Fizyoterapi ve Rehabilitasyon Bölümü, Bolu Abant İzzet Baysal Üniversitesi, fzt.omerpala@gmail.com, ORCID: 0000-0002-1826-5723
[2]Dr. Öğr. Üyesi, Ayşe NUMANOĞLU AKBAŞ, Fizyoterapi ve Rehabilitasyon Bölümü, Balıkesir Üniversitesi, aysenumanoglu@gmail.com, ORCID: 0000-0001-9296-8972
[3]Dr. Öğr. Üyesi, Elif DUYGU YILDIZ, Fizyoterapi ve Rehabilitasyon Bölümü, Bolu Abant İzzet Baysal Üniversitesi, elifduygu@ibu.edu.tr, ORCID: 0000-0003-1177-5744

Sorumlu yazar: Elif DUYGU YILDIZ
e-mail: elifduygu@ibu.edu.tr

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GİRİŞ

Fasyal sistem tüm organları, kasları, kemikleri ve sinir liflerini iç içe geçirir, çevreler ve vücuda fonksiyonel bir yapı kazandırır.[1] Superficial Back Line'da (SBL) vücudu posteriordan hem kemiksel hem de miyofasyal traktuslar oluşturarak sarmakta ve birleştirmektedir. Bu miyofasyal hattın ilk durağı ayak parmaklarının distal falankslarından başlar ve parmak fleksörleri ve plantar fasyayı içine alarak calcaneusa tutunur. Calcaneustan aşil tendonu ile gastrocnemius kasına, oradan hamstringlere doğru yukarı çıkarak iskiyal tüberküle tutunur. İskiyal tüberkülde sakrotüberal ligament ile birleşerek sakrum üzerinden erektör spina kaslarına, oradan da kraniuma kadar ulaşır. [2]

Sağlıklı bir lumbo-pelvik hareket için hem lumbal fleksiyonun hem de kalça fleksiyonunun tam olması, bunun sağlanabilmesi için de SBL'nin (özellikle hamstring ve lumbal ekstansör) esnekliğinin yeterli olması gerekmektedir.[3] Bu yapıların esnekliği yaralanmalar için değiştirilebilir ve önemli bir risk faktörüdür.[4, 5] Ayağın plantar yüzeyi çoğu zaman hattın geri kalanıyla iletişim kuran ve sorunların ana kaynağı olduğu düşünülen yapıdır.[2] Hipertonus veya kas imbalans alanları, fasyaların doğal longitudinal kaymasını kısıtlamaktadır. Bu kısıtlılık alanları da komşu veya uzak bölgeleri etkileyebilir.[6] Öyle ki, plantar fasyadaki bir limitasyon sıklıkla hamstring kaslarında gerginlik, lumbal lordozda artış ve servikal hiperekstansiyon ile sonuçlanabilir. Aynı şekilde plantar yüzeye yapılan gevşetici uygulamalarda hat boyunca yukarı doğru iletilecektir. Myers (2009)[2] tenis topu veya golf topunun ayağın plantar yüzeyinde birkaç dakika döndürülmesinin SBL'de gevşemeye yol açacağını bildirilmiştir.[2] Grieve ve ark. (2015)[7], tenis topu ile yaptıkları plantar gevşetmenin hamstring ve lumbal ekstansör esnekliğini anlık olarak artırdığını göstermişlerdir.

Miyofasyal gerginlikleri çözmek için foam roller veya masaj topları gibi ürünlerin kullanımı hem terapistler hem de hastalar tarafından sıklıkla tercih edilmektedir. Yuvarlanma sırasında oluşan süpürücü tarzda basıncın fasyanın gerilmesine ve hareket açıklığının artmasına neden olduğu varsayılmaktadır.[8] Ayrıca yuvarlanma esnasında oluşan friksiyonun yol açtığı ısı artışı fasyal katmanlar arasındaki adezyonları çözerek miyofasyal dokuların esnekliğini restore edebilir.[9] Benzer mekanik etkilere ilaveten manyetik özelliklere de sahip mantar topların kullanımı giderek yaygınlaşmaktadır. Yapılan çalışmalar statik manyetik magnetlerin ağrıyı azalttığı, mikrosirkülasyonu ve oksijenlenmeyi artırdığı ve presinaptik membran fonksiyonlarında değişikliğe yol açtığını göstermiştir.[10-13]

Literatür incelendiğinde bildiğimiz kadarıyla, manyetik özellikli topların miyofasyal gevşeme etkisini inceleyen çalışmaya rastlanmamıştır. Kişinin kendi kendine de masaj yapabilmesine imkân tanıyan bu ürünlerin etkinliğinin klinik olarak da ortaya konulmasının önemli olduğu kanaatindeyiz. Bu çalışma asemptomatik yetişkinlerde manyetik özelliği olan ve olmayan iki farklı mantar topun oluşturacağı miyofasyal gevşemeyi değerlendirmek amacı ile planlanmıştır.

MATERYAL VE METOT

Çalışma dizaynı

Bu çalışma randomize kontrollü, paralel çift kör bir çalışma olarak planlanmıştır. Randomizasyon, çevrimiçi bir randomizasyon aracı olan "Graph Pad" ile yapılmıştır. Çalışmada iki farklı mantar fasya topu kullanılmıştır. Ebatları ve materyalleri birbiri ile aynı olan bu topların birinde 3 adet 1500 tesla gücünde mıknatıs bulunmaktadır. Katılımcılar masaj yapacakları topun mıknatıs içerip içermediğini konusunda habersizdi. Grupların randomizasyonu ve hangi katılımcının hangi topu kullanacağını araştırmacı OOP tarafından bilinmekteydi. Sonuç ölçümleri (otur-uzan testi ve hamstring

esnekliği testi) farklı araştırmacı ANA tarafından yapıldı ve ölçümleri yapan araştırmacı katılımcıların hangi top ile self-masaj yaptığı konusunda kördü.

Bireyler

Çalışma öncesinde örneklem grubunun hesaplanmasında G*Power 3.1 programı kullanılmış, etki büyüklüğünün hesaplanmasında (Williams W, Selkow NM)[14] çalışması esas alınarak, 0.05 anlamlılık düzeyinde 0.80 güç için 28 katılımcı olması gerektiği bulunmuştur. Çalışmaya dahil olan 30 katılımcı manyetik mantar fasya topu (MFT) grubu ve sham mantar fasya topu (SFT) grubu olmak üzere 15'er kişilik iki gruba ayrılmıştır (Şekil1).

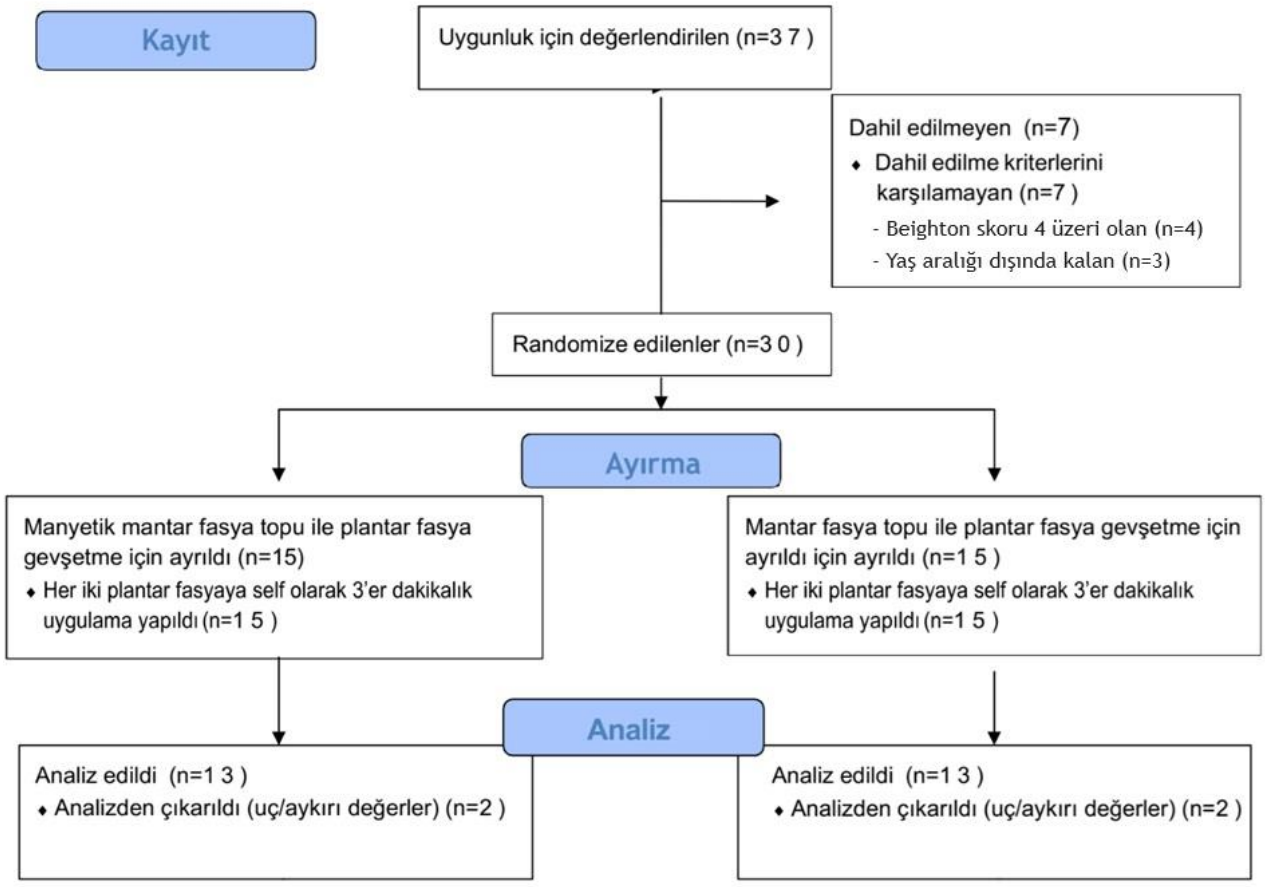
Esnekliğin, yaşla ve cinsiyetle ilişkili değişkenliğini sınırlandırmak için 18-30 yaş arası ve çalışmaya katılmaya gönüllü kadın katılımcılar dahil edilmiştir[15]. Beighton skorlama sistemine göre 4 ve daha az skora sahip, son altı ay içinde bel ağrısı veya yaralanması yaşayan, omurga ve alt ekstremitede ameliyat öyküsü olanlar çalışma dışı bırakılmıştır. Bu klinik çalışma için Sivas Cumhuriyet Üniversitesi Girişimsel Olmayan Klinik Araştırmalar Etik Kurulu'nun 09.10.2019 tarih ve 2019-10/16 sayılı kararı ile gerekli izin alınmıştır. Çalışma Mayıs 2021 ile Eylül 2021 tarihleri arasında Sivas ilinde yapılmıştır. Çalışmaya dâhil edilen tüm bireyler çalışma hakkında bilgilendirilmiş ve gönüllülük esasına dayalı yazılı aydınlatılmış onamları alınmıştır.

Değerlendirme

Otur-Uzan Testi

Esneklikteki değişimi değerlendirmek için otur-uzan testi kullanılmıştır. Otur-uzan testi hem lumbal omurga esnekliği ile hem de hamstring kaslarının esnekliği ile ilişkili bulunmuş güvenilir bir ölçüm aracıdır[16].

Katılımcılar, ayakkabılarını çıkararak ayakları test kutusuna dayanacak ve dizleri tam ekstansiyonda olacak şekilde uzun oturma pozisyonuna yerleştirildi.



Şekil 1. Akış diyagramı

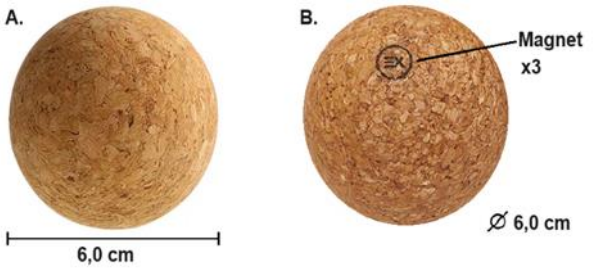
Katılımcıdan, bir elini diğerinin üzerine koyarak avuç içleri aşağı bakacak şekilde, tahta blok üzerinde kollarını ileriye doğru uzatarak yavaşça öne doğru uzanması istendi. Bu esnada, parmakları ölçüm tahtası ile temasını sürdürmeli ve bu pozisyonu yaklaşık 2 saniye boyunca korumalıdır. Parmak uçlarıyla ulaştığı ve 2 saniye koruyabildiği en uzak nokta testin skoru olarak kabul edildi (cm). Test üç kez tekrarlanarak, üç denemenin en iyisi kaydedildi.[17]

Hamstring Esnekliği Gonyometrik Ölçümü

Katılımcılar, sırt üstü yatar pozisyonda, ölçüm yapılacak ekstremitesinin kalçası 90 derece olacak şekilde pozisyonlandı. Katılımcıdan bu pozisyonda aktif diz ekstansiyonu istenerek femur uzun ekseni ile fibula uzun ekseni arasında kalan dar açı ölçüldü. Ölçüm için geçerlik güvenirlik çalışması yapılmış olan DrGonyometer (iOS) akıllı telefon uygulaması kullanılmıştır.[18]

Uygulama

Katılımcılar lumbal esnekliği ve hamstring esnekliğini arttırmak için self miyofasyal gevşetme (SMG) uygulaması yaptılar. Plantar yüzeye yaptıkları SMG uygulaması için fasyal mantar top kullandılar. Katılımcıların hangi gruba dahil olduklarını bilen bir araştırmacı (OOP) tarafından uygun olan mantar top (manyetik/sham) hastaya verildi (Şekil 2). Uygulamanın takibi ve kontrolü aynı araştırmacı yapıldı. Katılımcılardan sırtı destekli bir sandalyeye oturmaları ardından topu her bir ayağının tabanında 3'er dakika boyunca, metatars başlarından topuğa doğru, medial longitudinal arkta yoğunlaşacak şekilde yuvarlaması istendi. Katılımcılara, daha net baskıların daha faydalı olacağı bilgisi verilmiş ve ağrı yaratmayacak şekilde basınç uygulayarak yapmaları istenmiştir.



Şekil 2: A. Mantar Fasya Topu, B. Manyetik Mantar Fasya Topu

İstatistiksel Analiz

Çalışmadan elde edilen verilerin analizinde ve tabloların oluşturulmasında Statistical Package for Social Sciences (SPSS®) versiyon 22 kullanılmıştır. Ölçümle elde edilen sürekli değişkenler (nicel) için ortalama, standart sapma, kategorik değişkenler (nitel) için frekans ve yüzde değerleri kullanılmıştır. Nicel değişkenlerin normal dağılıma uygunluğun araştırılması için Kolmogorov Smirnov testi, çarpıklık basıklık indeksi ve grafiksel yöntemler kullanılmıştır. Gruplar arası farkların karşılaştırılmasında, normal dağılan değişkenler için t-testi, normal dağılmayan değişkenler için Mann-Whitney U testi kullanılmıştır. Her bir grup içinde farklı zamanlarda alınan ölçümlerindeki değişimin anlamlı olup olmadığı, normal dağılan değişkenler için Bağımlı Örneklemde t testi, normal dağılmayan değişkenler için ise Wilcoxon testi ile yapılmıştır. Bütün istatistiksel analizlerde anlamlılık düzeyi olarak $p<0.05$ değeri kabul edilmiştir.

BULGULAR VE TARTIŞMA

37 katılımcı değerlendirilmiş, ancak 30 katılımcı çalışmaya dahil edilmiştir. Normal dağılımı bozan 4 bireye ait uç veriler çıkartılmış ve istatistik 26 bireyin verileri üzerinden yapılmıştır. Çalışmaya dahil edilen ve edilmeyen hastaların ayrıntıları bir akış şeması olarak verilmiştir (Şekil 1). Uygulama ile ilgili herhangi bir advers olay bildirilmemiştir. Gruplar arasında başlangıçtaki fiziksel ve demografik özellikler açısından herhangi bir fark bulunmamıştır ($p>0.05$, Tablo 1).

Başlangıçta, otur-uzan testi skorları ve hamstring kası esneklikleri açısından gruplar arasında fark yoktu ($p>0.05$). Uygulama sonrasında MFT grubunda otur-uzan test skorları ve sağ hamstring esnekliği artmış ($p=0.005$, Tablo 2; $p=0.041$, Tablo 3), sol hamstring esnekliğinde istatistiksel olarak anlamlı bir değişim görülmemiştir ($p=0.625$, Tablo 4). SFT grubunda otur-uzan testi

skorları (p=0.004, Tablo 2) ve hamstring esnekliğinin arttığı bulunmuştur (Sağ: p=0.028 Tablo 3; Sol: p=0.025, Tablo 4).

Tablo 1. Demografik ve fiziksel veriler

	Manyetik Fasya Topu (n=13)	Sham Fasya Topu (n=13)	Z	p
	X ± SS	X ± SS		
Yaş (yıl)	20.69 ± 3.59	21.36 ± 1.34	-0.075	0.943
Boy (cm)	165.38 ± 5.19	162.54 ± 5.48	-1.158	0.247
Vücut ağırlığı (kg)	59.46 ± 10.08	58.46 ± 7.36	-0.386	0.699
VKİ (kg/cm^2)	21.71 ± 3.51	22.13 ± 2.65	-0.641	0.522

Bağımsız grup t testi, VKI: Vücut kitle indeksi, cm: santimetre, kg: kilogram

Tablo 2. Otur uzan testi grup içi ve gruplar arası karşılaştırılması

	Manyetik Fasya Topu (n=13)	Sham Fasya Topu (n=13)	Z	p
	X ± SS	X ± SS		
Uyg. Öncesi	25.92 ± 8.77	22.96 ± 9.20	-0.796	0.426
Uyg. Sonrası	28.46 ± 8,99	25.15 ± 8.95	-0.643	0.520
p	**0.005***	**0.004***		
Fark	2.54 ± 2,20	2.19 ± 1.99	-0.798	0.448

*Wilcoxon testi, Mann-Whitney U testi, Uyg: Uygulama

Tablo 3. Hamstring esnekliği (sağ) grup içi ve gruplar arası karşılaştırılması

SAĞ	Manyetik Fasya Topu (n=13)	Sham Fasya Topu (n=13)	Z	p
	X ± SS	X ± SS		
Uyg. Öncesi	21.79 ± 10.06	21.45 ± 8.34	-0.590	0.555
Uyg. Sonrası	18.56 ± 9.93	18.93 ± 9.26	-0.231	0.817
p	**0.041***	**0.028***		
Fark	3.23 ± 4.94	2.52 ± 3.46	-0.282	0.778

*Wilcoxon testi, Mann-Whitney U testi, Uyg: Uygulama

Gruplar arası karşılaştırmada, otur-uzan test skorları ve hamstring kas esnekliğinde gruplar arasında fark bulunmamıştır (p>0.05).

Tablo 4. Hamstring esnekliği (sol) grup içi ve gruplar arası karşılaştırılması

SOL	Manyetik Fasya Topu (n=13)	Sham Fasya Topu (n=13)	Z	p
	X ± SS	X ± SS		
Uyg. Öncesi	21.81 ± 11.99	24.65 ± 8.73	-0.410	0.682
Uyg. Sonrası	20.72 ± 11.12	23.66 ± 8.74	-0.564	0.573
p	0.625	**0.025***		
Fark	1.09 ± 4.14	0.98 ± 1.52	-0.949	0.343

*Wilcoxon testi, Mann-Whitney U testi, Uyg: Uygulama

Bilgimize göre bu çalışma, manyetik fasya topunun SMG için kullanımının hamstring ve lumbal omurga esnekliğine etkisini inceleyen literatürdeki ilk randomize kontrollü çalışmadır. Bu randomize kontrollü çalışma sonunda, non-semptomatik yetişkinlerde plantar fasya için mantar top ile SMG uygulamasının anlık olarak hamstring esnekliğini artırdığını ortaya koymuştur. Manyetik fasya topunun ise, hamstring esnekliğini artırmada sham fasya topuna göre bir üstünlüğü olmadığı belirlenmiştir.

İnsan vücudundaki iskelet kaslarının çoğu konnektif doku ile doğrudan bağlantılıdır.[19] Plantar fasya da SBL meridyeni içerisinde yer alan bir fasyadır ve kas komponentlerinden gastroknemius, hamstring ve erektör spinalarla bağlantılıdır.[19,2] Hamstring kısalığında plantar fasiit görülme sıklığının artması da bu bağlantıyı net bir şekilde ortaya koymaktadır.[20] Bu bağlantıları baz alarak çalışmalarını planlayan Grieve ve ark (2015)[7], plantar SMG'nin anlık etkisini değerlendirdikleri çalışmalarında hamstring esnekliğinin arttığını belirtmiştir. Rosso ve ark.[21] plantar SMG'nin posterior zincir kaslarının esnekliğini değerlendirdikleri çalışmalarında plantar SMG'nin anlık olarak esnekliği artırdığını ve bu etkinin 1 saate kadar devam ettiğini bildirmiştir. Shetty ve ark.[22] 3 set 30 sn 3 gün golf topuyla yapılan SMG'nin pasif hamstring germe

egzersizlerine göre hamstring esnekliğini daha fazla artırdığını belirtmiştir. Plantar fasyanın SMG'sinde kullanılan materyalden bağımsız bir şekilde bu etki sağlanıyor gibi görünmektedir.[23]

Literatürdeki çalışmalara benzer şekilde çalışmamız SMG ile anlık hamstring esnekliğinin arttığını göstermiştir. SBL'ye ait olan plantar fasyanın SMG ile gevşetilmesi hamstring esnekliğinde artışı sağlamıştır. Sarkomer, iskelet kasının temel işlevsel birimidir ve uzunluğu, kas kuvveti üretimi ve ekskürsiyonunun temel belirleyicisini temsil eder.[24] Bu durum dikkate alındığında, kasılma elemanları ile kasla ilişkili fasyal yapılar arasındaki mekanik etkileşimler, yani miyofasiyal kuvvet iletimi, bir sarkomerin uzunluğunu belirleyen kuvvet dengesini etkilediğinden büyük işlevsel öneme sahiptir ve mekanik kuvvet ve gerginlik aktarımı nedeniyle, her iki yapıdaki değişimler çevrelerini mekanik olarak etkilemektedir.[25] Bu mekanizma ile hamstring kasındaki esnekliğin arttığını düşünmekteyiz.

Otur-uzan testi, gastroknemius ve erektör spina kasları gibi SBL içerisinde yer alan diğer kasların esnekliğini de değerlendirmektedir. Otur-uzan testindeki gelişme yukarıdaki mekanizma ile açıklanabilmektedir. Gastroknemius ve lumbal omurga esnekliği izole olarak değerlendirilmediğinden bu esneklik artışının lumbal bölgeden mi yoksa gastroknemius kasındaki esneklik artışından mı olduğunu söylemek ise güçtür.

Bilgimize göre literatürde manyetik mantar top kullanılarak SMG uygulanan bir çalışma mevcut değildir. Uygulama grubundaki manyetik mantar top içerisinde magnet içermektedir. Magnet çevresinde bir manyetik alan meydana gelmektedir.[26] Manyetik alanın büyüklüğü ise magnetin yüzey gücü, kalınlığı ve şekli gibi çeşitli faktörlerden etkilenebilmektedir.[26] Magnetin yüzey gücü arttıkça manyetik alanın penetrasyonu artmaktadır. Terapatik bir etki için magnetin gücünün 200 gauss'tan (10.000 gauss=1 tesla) başlaması gerekmektedir.[27] 1500 tesla gücündeki bir magnet, güçlü bir manyetik alan yaratabilmesine rağmen uygulamanın sadece 3 dakika sürmesi manyetik topun etki göstermesi için yeterli bir süre olmayabileceğini düşünmekteyiz.

Çalışmamız etkisi gösterilememiş olsa bile manyetik topun kullanıldığı ilk randomize kontrollü çalışmadır. Çalışmamızın bazı limitasyonları mevcuttur. Uygulama sırasında plantar basınç dozunun objektif bir şekilde belirlenmemiş olması, sadece kısa süreli bir uygulamanın anlık etkisinin değerlendirilmesi, çalışmanın tek merkezli yürütülmesi bu çalışmanın limitasyonları arasında yer almaktadı

SONUÇ VE ÖNERİLER

Plantar fasyaya mantar top ile uygulanan SMG hamstring esnekliğini artırmaktadır. Magnet bulunan topun etkinliğinin yeniden değerlendirilmesi için daha büyük örnekleme sahip, plantar basıncın objektif olarak değerlendirildiği ve farklı uygulama seans ve süre sayılarının ve bu uygulamaların etkinliğinin ne kadar sürdüğünü değerlendiren çalışmalara ihtiyaç vardır.

KAYNAKLAR

1. Dowling, D.J. and Martinke, D.J. (2021). "The philosophy of osteopathic medicine". In E.L. DiGiovanna, S. Schiowitz. and D.J. Dowling (Ed.). An osteopathic approach to diagnosis and treatment (42). China: Lippincott Williams & Wilkins.

2. Myers, T.W. (2009). "The Superficial Back Line". In TW. Myers (Ed.). Anatomy Trains Myofascial Meridians for Manual and Movement Therapists (75-79). China: Elsevier Health Sciences,

3. Porter, J.L. and Wilkinson, A. (1997). "Lumbar-hip flexion motion: a comparative study between asymptomatic and chronic low back pain in 18-to 36-year-old men". Spine, 22(13), 1508-1513. https://doi.org/10.1097/00007632-199707010-00017

4. van Beijsterveldt, A.M, van de Port, I.G, Vereijken, A.J. and Backx, F.J. (2013). "Risk factors for hamstring injuries in male soccer players: a systematic review of prospective studies". Scandinavian Journal of Medicine & Science in Sports, 23(3), 253-62. https://doi.org/10.1111/j.1600-0838.2012.01487.x

5. Jones, M.A, Stratton, G, Reilly T. and Unnithan, V.B. (2005). "Biological risk indicators for recurrent non-specific low back pain in adolescents". British Journal of Sports Medicine, 39(3), 137-40. https://doi.org/10.1136/bjsm.2003.009951

6. Bordoni, B, Mahabadi, N. and Varacallo, M. (2019). Anatomy, Fascia. StatPearls/Online: StatPearls Publishing

7. Grieve, R, Goodwin, F, Alfaki, M, Bourton, A.J, Jeffries, C. and Scott, H. (2015). "The immediate effect of bilateral self myofascial release on the plantar surface of the feet on hamstring and lumbar spine flexibility: A pilot randomised controlled trial". The Journal of Bodywork and Movement Therapies, 19(3), 544-52. https://doi.org/10.1016/j.jbmt.2014.12.004

8. Sullivan, K.M, Silvey, D.B, Button, D.C. and Behm, D.G. (2013). "Roller-massager application to the hamstrings increases sit-and-reach range of motion within five to ten seconds without performance impairments". The International Journal of Sports Physical Therapy, 8(3), 228-36.

9. Sefton, J. (2004). "Myofascial release for athletic trainers, part I: Theory and session guidelines". Athletic Therapy Today, 9(1), 48-49. https://doi.org/10.1123/att.9.1.48

10. Bikson, M, Inoue, M, Akiyama, H, Deans, J.K, Fox, J.E, Miyakawa, H. and Jefferys, J.G. (2004). "Effects of uniform extracellular DC electric fields on excitability in rat hippocampal slices in vitro". The Journal of Physiology, 557(1), 175-90. https://doi.org/10.1113/jphysiol.2003.055772

11. Rosen, A.D. (1994). "Threshold and limits of magnetic field action at the presynaptic membrane". Acta Biochimica et Biophysica Sinica, 1193(1), 62-6. https://doi.org/10.1016/0005-2736(94)90333-6

12. Colbert, A.P, Markov, M.S, Banerji, M. and Pilla, A.A. (1999). "Magnetic mattress pad use in patients with fibromyalgia: a randomized double-blind pilot study". Journal of Back and Musculoskeletal Rehabilitation, 13(1), 19-31. https://doi.org/10.3233/BMR-1999-13104

13. Ichioka, S., Iwasaka, M., Shibata, M., Harii, K., Kamiya, A., Ueno, S. (1998). "Biological effects of static magnetic fields on the microcirculatory blood flow in vivo: a preliminary report". Medical & Biological Engineering & Computing, 36(1), 91-5. https://doi.org/10.1007/bf02522863

14. Williams, W. and Selkow, N.M. (2019). "Self-myofascial release of the superficial back line improves sit-and-reach distance." Journal of Sport Rehabilitation, 29(4), 400-404. https://doi.org/10.1123/jsr.2018-0306

15. Remvig, L, Jensen, D.V. and Ward, R.C. (2007). "Are diagnostic criteria for general joint hypermobility and benign joint hypermobility syndrome based on reproducible and valid tests? A review of the literature". The Journal of Rheumatology, 34(4), 798-803.

16. Liemohn, W, Sharpe, G.L. and Wasserman, J.F. (1994). "Criterion related validity of the sit-and-reach test." The Journal of Strength & Conditioning Research, 8(2), 91-94

17.. Suni, J.H, Miilunpalo, S.I, Asikainen, T.M, Laukkanen, R.T, Oja, P, Pasanen, M.E, Bos, K. and Vuori, I.M. (1998). "Safety and feasibility of a health-related fitness test battery for adults". Physical Therapy & Rehabilitation Journal, 78(2), 134-48. https://doi.org/10.1093/ptj/78.2.134

18. Hales, G, Keating, R, Bear, N, Warren, K. and Otter, S. (2015). "Reliability of a smartphone goniometer app compared with traditional goniometer for measuring passive motion at the first metatarsophalangeal joint". Journal of Foot and Ankle Research, 8(30), 1-7. https://doi.org/10.1186/s13047-015-0088-3

19. Wilke, J, Krause, F, Vogt, L. and Banzer, W. (2016). "What is evidence-based about myofascial chains: a systematic review. Archives of Physical Medicine and Rehabilitation". 97(3), 454-461. https://doi.org/10.1016/j.apmr.2015.07.023

20. Ajimsha, M.S, Shenoy, P.D. and Gampawar, N. (2020). "Role of fascial connectivity in musculoskeletal dysfunctions: A narrative review". Journal of Bodywork and Movement Therapies, 24(4), 423-431. https://doi.org/10.1016/j.jbmt.2020.07.020

21. Russo, L, Montagnani, E, Pietrantuono, D, D'Angona, F. Fratini, T, Di Giminiani, R. and Padulo, J. (2023). "Self-Myofascial Release of the Foot Plantar Surface: The Effects of a Single Exercise Session on the Posterior Muscular Chain Flexibility after One Hour". International Journal of Environmental Research and Public Health, 20(2), 974-86 https://doi.org/10.3390/ijerph20020974

22. Shetty, K. and Dsouza, M.R. (2018). "Effectiveness of plantar fascia mobilization and passive stretching on hamstring muscle flexibility". International Journal of Health Sciences and Research, 8(1), 134-7.

23. Hameed, F.S. and Srivastava, S. (2020). "Effect of Self Myofascial Release Using Foam Roller Versus Tennis Ball in Subjects with Plantar Fasciitis: A Comparative Study". Indian Journal of Public Health Research & Development, 11(2), 827–838. https://doi.org/10.37506/v11/i2/2020/ijphrd/194849

24. Huxley, H.E. (1965). "The mechanism of muscular contraction". Scientific American, 213(6), 18-27. https://doi.org/10.1126/science.164.3886.1356

25. Wilke, J, Schleip, R, Yucesoy, C.A. and Banzer, W. (2018). "Not merely a protective packing organ? A review of fascia and its force transmission capacity". Journal of Applied Physiology, 124(1), 234-244. https://doi.org/10.1152/japplphysiol.00565.2017

26. Trock, D.H. (2000). "Electromagnetic fields and magnets: investigational treatment for musculoskeletal disorders". Rheumatic Disease Clinics of North America, 26(1), 51-62. https://doi.org/10.1016/s0889-857x(05)70119-8

27. Hinman, M.R. (2002). "The therapeutic use of magnets: a review of recent research". Physical Therapy Reviews, 7(1), 33-43. https://doi.org/10.1179/108331902125001761

GÜSBD 2024; 13(3): 1400 - 1407 **Gümüşhane Üniversitesi Sağlık Bilimleri Dergisi** **Derleme Makalesi**
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Rubinstein-Taybi Sendromunda Tıbbi Beslenme Tedavisi

Nutritional Management in Rubinstein-Taybi Syndrome

Emre MANİSALI[1], Eslem KARSLI[2], Fatma ÇELİK[3]

ÖZ

Rubinstein-Taybi Sendromu, büyük ve geniş el ve ayak başparmakları, yüz dismorfisi, bodurluk ve zihinsel gelişim geriliği gibi çeşitli fenotipik özelliklerle karakterize bir konjenital anomaliliktir. Bu sendrom, CREBBP ve EP300 genlerinde mutasyon meydana gelmesi sonucu oluşmaktadır. Genlerdeki çeşitli translokasyon veya delesyonlar sonucunda bu hastalığa sahip çocukların göz, diş ve çene yapısı, kalp, böbrek ve akciğer gibi organlarında çoklu defektler ve fonksiyon kayıpları görülmektedir. Ayrıca, Rubinstein-Taybi Sendromlu çocuklar lösemi ve beyin tümörleri açısından risk altında bulunmaktadırlar. Tanı mekanizmaları kesin olmamakla beraber teşhis için fenotipik özelliklerden faydalanılmaktadır.

Bu çocuklarda fazla kilo ve obezite yaygın olarak görülmektedir. Ancak bu sendroma özgü herhangi bir özel beslenme planı bulunmamaktadır. Temel beslenme protokolü, semptomları önlemeye yöneliktir. Bu derlemenin amacı; Rubinstein-Taybi Sendromunun gelişimi, patofizyolojisi, klinik özellikleri, beslenme durumu ve tıbbi beslenme tedavisini literatür eşliğinde tartışmaktır.

Anahtar Kelimeler: Beslenme, Genetik, Rubinstein-Taybi Sendromu

ABSTRACT

Rubinstein-Taybi Syndrome is a congenital anomaly characterized by various phenotypic features such as broad thumbs and toes, facial dysmorphia, stunting and mental retardation. This syndrome is caused by mutations in the CREBBP and EP300 genes. As a result of various translocations or deletions in genes, multiple defects and loss of function are seen in organs such as eyes, teeth and jaw structure, heart, kidney and lung in children with this disease. Also, children with Rubinstein-Taybi Syndrome are at risk for leukemia and brain tumors. Although the diagnostic mechanisms are not certain, phenotypic features are used for diagnosis.

Overweight and obesity are common in these children. However, there is no specific nutrition plan to this syndrome. The basic nutritional protocol is aimed at preventing symptoms. The aim of this review is to discuss the development, pathophysiology, clinical features, nutritional status and medical nutrition therapy of Rubinstein-Taybi Syndrome in the light of the literature.

Keywords: Nutrition, Genetics, Rubinstein-Taybi Syndrome

[1] Öğr. Gör., Emre MANİSALI, Beslenme, Biruni Üniversitesi Sağlık Bilimleri Fakültesi Beslenme ve Diyetetik Bölümü, emanisali@biruni.edu.tr, ORCID: 0000-0002-7342-4854
[2] Dyt., Eslem KARSLI, Beslenme, Biruni Üniversitesi Lisansüstü Eğitim Enstitüsü Beslenme ve Diyetetik Bölümü, eslemkrsl@gmail.com, ORCID: 0000-0002-5286-4113
[3] Prof. Dr., Fatma ÇELİK, Beslenme, Biruni Üniversitesi Sağlık Bilimleri Fakültesi Beslenme ve Diyetetik Bölümü, fcelik@biruni.edu.tr, ORCID: 0000-0002-7553-8687
İletişim / Corresponding Author: Emre MANİSALI
e-posta/e-mail: emanisali@biruni.edu.tr
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GİRİŞ

Rubinstein-Taybi sendromu (RTS), bilinen eski adıyla başparmak sendromu, nadir görülen bir nörogelişimsel genetik anomalidir. Global olarak insidansının 1/100.000 ve 1/125.000 doğum arasında olduğu tahmin edilmektedir. Genetik aktarımı otozomal dominanttır ve birkaç ailesel vaka bildirilmiş olmasına rağmen vakaların büyük çoğunluğu (~%99) sporadik olarak ortaya çıkmaktadır. Etiyolojik olarak CREBBP ve EP300 genlerinde patolojik varyantlar görülmesi sonucu oluşmaktadır. RTS tanısı hala klinik değerlendirmeye dayanmaktadır; bununla birlikte, kromozom 16p 13.3 üzerindeki CREB bağlayıcı protein gen alanının sitogenetik ve moleküler çalışmaları, vakaların %10-20'sinde tanının doğrulanmasına yardımcı olmaktadır. Hastalık fenotipik olarak iyi tanımlansa da doğum sonrası büyüme geriliği, karakteristik fasiyal dismorfi, büyük başparmaklar veya halluks ve entelektüel eksiklik ile de karakterizedir.[1]

Pediatrist J. H. Rubinstein ve Radyolog H. Taybi'nin 1963 yılına kadar büyük başparmaklar, halluks, küçük yüz yapısı ve zihinsel engelli yedi (2 kız 5 erkek) çocuğu rapor etmesine kadar bu hastalık nispeten bilinmemektedir. O zamandan beri, bu sendrom açıkça embriyonik gelişimin ciddi bir anormalliği olarak tanımlanmıştır.[2]

Antenatal Anomaliler ve Gebelik

Rubinstein-Taybi Sendromunun gebelik esnasında tanısı neredeyse hiç konmamaktadır. Gebelik sırasında çok az antenatal belirti olduğundan çok nadiren bahsedilmektedir. Gebelikte fetusta orta derecede intrauterin büyüme geriliği, annede ise polihidramniyoz görülebilmektedir. Literatürde, EP300'de patojenite taşıyan çocukların annelerinde daha yüksek preeklampsi (%23) ve hipertansiyon (%33) insidansı olduğunu bildirilmiştir.[3] Üç boyutlu USG ile tipik yüz özelliklerinin saptanmasının iyileştirilebileceği gibi, anormal ekstremitelerin ana tanı kriteri olmaya halen devam ettiği ve beyin anomalilerinin, özellikle serebellar hipoplazi ve safra kesesi anomalilelerinin (%22'sinde) antenatal belirteçler olarak görüldüğü bildirilmiştir.[1]

Patofizyoloji

RTS'li bireylerin fenotipik özellikleri normal bireylere göre değişkenlik göstermektedir. Bu bireylerde palpebral fissürler, belirgin hipertelorizm, uzun kirpikler, yay şeklinde kaşlar, alae nasi'nin altına doğru uzanan çıkıntılı burun, malpozisyonlu kulaklar, atipik gülümseme, yüksek kemerli damak, hipoplastik maxilla, geniş falanx ve hallux temel bulgulardır.[4]

Bu sendromun patognomonik kriterleri yoktur ancak kardinal belirtilerle ilişkili geniş bir fenotipik spektrumu vardır. Tablo 1'de literatürde bildirilen CREBBP ve EP300 genlerinde meydana gelen mutasyon veya delesyona bağlı olarak görülen fenotipik belirtiler verilmiştir.[1]

Tablo 1. Literatürde Bildirilen EP300 Mutasyonu Taşıyan RTS Bireyleri İle CREBBP Mutasyonu Taşıyan RTS Bireylerindeki Ana Fenotipik Özelliklerin Özeti[1]

Fenotipik Özellikler	*CREBBP* (n= 422)		*EP300* (n = 74)	
	Yüzde (%)	*Sayı*	*Yüzde (%)*	*Sayı*
İntrauterin Büyüme Geriliği	25	55/220	43.1	25/58
Preeklampsi	3.4	2/59	25	16/64
Postnatal Büyüme Geriliği	62.3	203/326	59.7	43/72
Mikrosefali	52.7	129/245	82.4	61/74
Hipertrikoz	76.4	123/161	47.4	27/57
Yüz Dismorfizmi				
Kemerli Kaşlar	85.6	119/139	65.6	42/64
Uzun Kirpikler	88.6	109/123	83.6	51/61
Aşağı Eğimli Palpebral Fissürler	81.1	258/318	51.6	33/64
Gaga Burun	81.7	272/333	37.5	24/64
Alae Nasi'nin Altındaki Columella	87.4	228/261	82.8	53/64
Yüksek Kemerli Damak	79.8	197/247	56.1	32/57
Mikrognati	64.2	149/232	40.6	26/64

Tablo 1. (*Devamı*)

Atipik Gülümseme	94.9	112/118	36.8	21/57
Düşük Kulaklar	51.1	112/219	23.4	15/64
Geniş Başparmaklar	92.3	373/404	59.5	44/74
Açılı Başparmaklar	56.4	184/326	4.8	3/63
Zihinsel Engel Durumu	82.2	287/349	84.9	62/73
Ağır	35.9	33/92	7.3	3/41
Orta	47.8	44/92	26.8	11/41
Hafif	14.1	13/92	65.9	27/41
Otizm/Davranış Sorunları	49.4	78/158	21.3	13/61
Kardiyovasküler Anomaliler	34.5	99/287	29	20/69
İdrar Yolu Anomalileri	37.4	61/163	26.3	15/57

Klinik Özellikler

RTS'li bireylerde yaygın olarak ortaya çıkan bir dizi tıbbi sorun vardır. Bunlar arasında; gastroözofageal reflü, beslenme güçlükleri, konstipasyon, hipotoni, doğuştan kalp hastalığı, böbrek anomalileri, anestezi sorunları, tekrarlayan solunum yolu enfeksiyonları, iyi veya kötü huylu tümör oluşumu, dental sorunlar, oftalmolojik sorunlar, ortopedik sorunlar, gelişimsel gerilik ve zekâ geriliği yer alabilir.[5]

RTS'li pediatrik vakaların %24-38'inde kardiyak anomaliler mevcuttur. Bu anomaliler genellikle atriyal septal defekt, ventriküler septal defekt, aort koarktasyonu, pulmonik stenoz, biküspid aort kapağı, psödotrunkus, aort stenozu, dekstrokardi, vasküler halkalar ve iletim sorunlarını kapsamaktadır. RTS'li bireylerin 3 yaşından itibaren düzenli olarak kardiyolog tarafından görülmesi gerekmektedir. Bireylerde obstrüktif uyku apnesi varlığı, hipertansiyona neden olabileceğinden bu hastalar için polisomnografi düşünülmelidir. Ayrıca kardiyolojik açıdan risk altında olan bireylere subakut bakteriyel endokardit ihtimaline karşın profilaksik tedavi başlatılması gerektiği bildirilmiştir.[4]

RTS'li bireylerin %67'sinde diş anormallikleri görülmektedir. Bu bireylerin % 15-36'sında diş çürükleri vardır. Bu nedenle 1 yaşından itibaren her 6 ayda bir diş hekimi muayenesi gerekmektedir. RTS'li bireylerde yaygın bulgular arasında çapraşık ve yanlış konumlanmış dişler, dar bir damak veya çene boyutu uyuşmazlığına bağlı sekonder ön ve arka çapraz kapanışlar, natal dişler, diş eti iltihabı, hipodonatia ve hiperdontia mevcuttur.[4] Ek olarak, maloklüzyon ve nadir bir diş anomalisi olan talon tüberkülleri de görülen diş bozuklukları arasındadır.[6]

Dermatolojik sorunlar RTS'li bireylerde bildirilen bir diğer klinik özelliktir. En sık görülen dermatolojik bulgular arasında hemanjiyomlar, hipertrikoz, brakionişi ve keloid oluşumu eğilimi yer almaktadır. Pilomatrikomaların RTS ile ilişkisini açıklayan az sayıda vaka vardır ve bu ilişkinin şansa bağlı olup olmadığı net değildir.[7] Literatürün yakın tarihli bir incelemesine göre, şimdiye kadar dokuz vaka bildirilmiştir ve bunlardan beşi çoklu lezyonları içermektedir.[8]

RTS'li çocuklarda odyologlar tarafından neonatal dönemde ABR (Auditory Brainstem Response) uygulanmalıdır. Bu çocuklarda hafif derecede işitme kaybı olabileceğinden (%24), endişeler (otitis media, ebeveyn endişesi veya geç konuşma endişesi) ortaya çıkarsa, işitme testleri daha sık yapılmalıdır. Genel popülasyona kıyasla RTS'li çocuklarda orta kulak hastalığı daha yaygın (%50) ve daha şiddetli (perforasyon riski) olduğundan, tekrarlayan veya dirençli otitis media için hastalar, pediatrik Kulak Burun Boğaz uzmanına yönlendirilmelidir.[4]

Endokrinolojik inceleme semptomlara göre yapılmalıdır. Glikoz metabolizması ile ilgili (hiper- ve hipo-glisemi/diyabet) vaka raporları bildirilmiş[9], RTS'li Semptomatik olan yenidoğanlarda serum glukozunun tükendiği görülmüştür. Ayrıca, RTS'li bireylerde tiroid ve indirekt büyüme hormonu ölçümlerinin (IGF-1) genellikle normal olduğu ifade edilirken dışarıdan verilecek olan büyüme hormonunun gerekli olup olmadığı, etkinliği veya güvenliği ile ilgili veriler henüz mevcut değildir.[4]

RTS'li çocuklarda respiratuvar problemler görülebilmektedir. Hipotoniye bağlı olarak hava yolu anatomisi ve obezite nedeniyle uyku sırasında üst solunum yolu tıkanıklığı

olabilir. Anestezi sırasında RTS'li çocuklarda aspirasyon riski artabilmektedir. Kraniyofasiyal anomalileri olan çocukların anormal polisomnografi sonuçları genel popülasyondaki %1-3'e kıyasla %20-30 olarak bulunmuştur.[4] Horlama, solunum durması, gece terlemesi, anormal uyku pozisyonları (dik uyuma) ve huzursuz uykunun; bir gecelik polisomnografi için düşünülmesi gerektiği bildirilmiştir. Genel popülasyona göre, 3-4 yaşlarında uyku apnesi zirve yapar. Tonsillektomi bazı çocuklarda yardımcı olmuştur. Ancak bu işlem; RTS'li bireylerde hava yolu ve anestezi sorunları nedeniyle dikkatli yapılmalıdır. Ses kısıklığı veya stridor atakları ile başvuran RTS'li çocuklarda sık üst solunum yolu enfeksiyonu, çok sayıda pnömoni veya hırıltılı solunum görülebilmektedir.[4]

RTS'li çocukların %52'sinde böbrek anomalileri vardır. Bu anomalilerden bazılarına hidronefroz, duplikasyonlar, vezikoüreteral reflü, idrar yolu enfeksiyonları, taşlar ve nefrotik sendrom örnek verilebilir. Dolayısıyla yine bu çocuklarda temel bir renal ultrason muayenesi gerekmektedir. RTS'li erkek çocukların önemli bir kısmında testislerin inişi tamamlanmamış veya gecikmiştir (%78-100) ve orichiopexy gerektirmektedir. Konstipasyon %40-74 oranında[10] görüldüğü için idrar yolu enfeksiyonları ve vezikoüreteral reflü ile ilgili zorluklara neden olmakta, bu sebeple de konstipasyon agresif bir şekilde tedavi edilmelidir. Bu çocuklarda ergenliğin başlangıç yaşı 11-13 (ortalama 12.2) ve menarş yaşı ise 11-19 (ortalama 13.6) aralığındadır.[4]

Büyük başparmaklar dışında; sindaktili ve polidaktili bu çocuklarda görülen diğer iskelet anomalileridir. Serçe parmakta ise klinodaktiliye rastlanabilir. Bu bireylerin %74'ünde kemik yaşı gecikmiştir. Bir diğer ifadeyle yaşıtlarına göre kemik gelişimi geridedir. Eklemlerde gevşeklik, patella dislokasyonu, skolyoz ve büyük foramen magnum ile karakterizedir. Ayrıca, servikal vertebral anormallikler (C1-C2 instabilitesi) açısından yüksek risk rapor edilirken, kraniovertebral bileşkede servikal miyelopatiye neden olabilen olası stenoz (darlık) bildirilmiştir.[10, 11]

RTS'li çocuklarda bazı davranışsal bulgular mevcuttur. Bunlar, hiperaktivite, gürültü intoleransı, dikkat ve motor güçlükler, uyumsuzluk ve kendine zarar verme gibi olağandışı davranışları içermektedir. Davranışsal fenotip yaşa bağlıdır ve ergenlik döneminden yetişkinliğe doğru; anksiyete, obsesif kompülsif bozukluk, duygu durum dengesizliği ve otizm spektrum bozukluğu gibi davranışların ortaya çıkmasıyla değişmektedir.[1, 10]

Rubinstein-Taybi sendromlu vakalarda görülen zihinsel engellilik düzeyi çoğu bireyde benzer oranda bulunmaktadır. Bu çocuklarda IQ puanı 25 ile 79 arasında değişmektedir. Vakaların %90'ında konuşma başlangıcı geçtir. Bu sendromda akıcı akıl yürütmenin IQ'dan daha yüksek olduğu bildirilmiştir. EP300 mutasyonu olanlarda, CREBBP mutasyonu olanlara kıyasla genel olarak daha hafif bir zihinsel engel mevcuttur. Hatta normal zihinsel yeterliliğe sahiplerdir. Genellikle 2-3 yaş civarında yürüme becerisi hipotoni kaynaklı geç olduğu bildirilmiştir.[1]

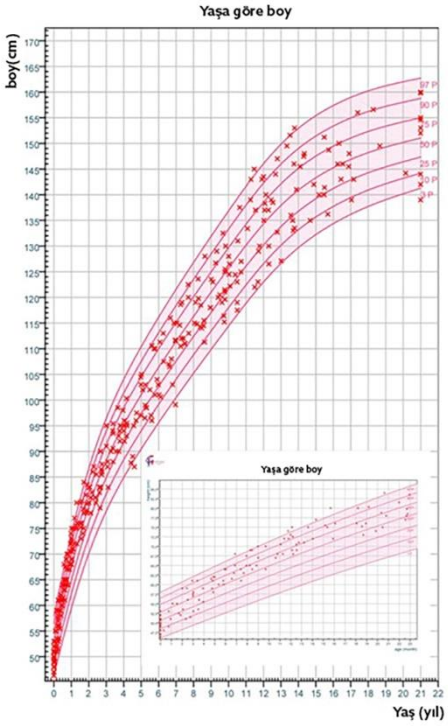
Bu hastalarda beslenme güçlüğü, gastroözofageal reflü (GÖRH) (%68), konstipasyon (%40-74) ve Hirschsprung hastalığı gibi gastrointestinal semptomlar yaygın görülmektedir. Erkenden fark edilmez ve yönetilmezse, bu semptomlar gelişme geriliği ve yemek borusu darlıkları gibi ikincil komplikasyonlara yol açabilmektedir.[12] Beslenme sorunları ve GÖRH ile ilişkili solunum sorunları yaygın olduğundan, RTS'li çocuklarda agresif tıbbi değerlendirme ve GÖRH tedavisi elzemdir. Dirençli vakaların pediatrik gastroenterologa sevk edilmesi önerilmektedir. Bazı çocuklara cerrahi müdahale gerekmiştir. Konstipasyon diyet ve tıbbi manipülasyon ile agresif bir şekilde tıbbi olarak yönetilmelidir. Bazı vakalarda özofagus patolojisi (striktürler, post-krikoid ağlar, vasküler halkalar) olup disfaji gelişen RTS'li ergenler olduğu bildirilmiştir.[4, 10]

Tüm bunlara bağlı olarak gastroenterolojik semptomları olan bebek, çocukluk ve yetişkinler için aşırı besleme önerilmemektedir. Beslenme sorunlarını

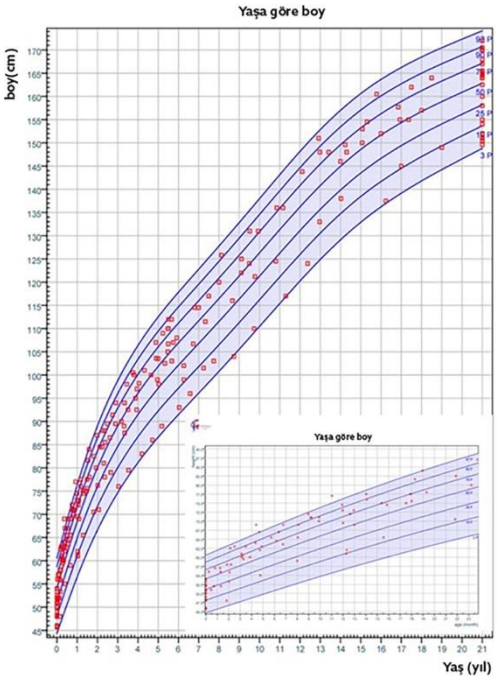
önlemek adına, boya göre ağırlık veya obeziteye bağlı artan beden kütle indeksi (BKİ)'nin takibinin önemi vurgulanmıştır. Ek olarak RTS'li bireylerde özel diyetleri destekleyecek hiçbir veri bulunamamıştır.[4]

RTS'li bebekler, beslenme güçlükleri (%71-80), oral-motor koordinasyon güçlükleri (%35 zayıf meme ucu kavraması, %34 yutma güçlükleri) ve gelişme geriliği (%34) için başlatılan müdahalelerle yakından izlenmelidir. Hipotoni nedeniyle beslenme üzerindeki etkiler de yetersiz enerji alımına yol açabilmektedir.[4] Bazı çocuklar, oral-motorlarda aşırı duyarlılığa sahip olduğundan besinleri ilerletmede zorluk yaşamaktadırlar. Bu nedenle optimum besin alımının sağlanabilmesi için RTS'li bebeklere emzirme ve beslenme için uygun pozisyon teşvik edilmelidir. Beşik pozisyonunun bu bebeklerdeki semptomları hafiflettiği vurgulanmaktadır.[13]

RTS'li çocuklarda rahim içi büyüme ve doğum ölçümleri (vücut ağırlığı, boy uzunluğu ve baş çevresi) klasik olarak 50. persentil civarında görünmektedir. Doğumda ortalama vücut ağırlığı, boy uzunluğu ve baş çevresi sırasıyla erkek bebeklerde 3.300 kg, 49.7 cm ve 34.2 cm, kız bebeklerde 2.970 kg, 48.6 cm ve 32.2 cm'dir.[1, 10] 2014 yılında boy uzunluğu, vücut ağırlığı, baş çevresi ve ayrıca BKİ için yeni spesifik büyüme eğrileri düzenlenmiştir. 0-24 ay ve 0-21 yaş arası RTS'li kız ve erkek çocuklarının yaşa göre boy persentil değerleri Şekil 1'de gösterilmiştir.[17] Büyüme eğrileri değerleri doğum sonrası ilk dönemde normalin alt sınırlarına yaklaşmaktadır. Bunun temel sebebi ise GÖRH kaynaklı beslenme eksikliğidir. Erkeklerde çocuklukta, kızlarda ise ergenlikte ağırlık artışı veya obezite görülme riski vardır. Ortalama yetişkin kadın ağırlığı 61.43 ± 14.89 kg ve ortalama BKİ 26.64 ± 5.5 kg/m^2 iken erkeklerde ortalama ağırlık 60.67 ± 13.63 kg ve ortalama BKİ 21.90 ± 3.45 kg/m^2 olarak bildirilmiştir. Bu sebeple risk kadınlarda daha yüksek görünmektedir.[1, 10]



Şekil 1. 0-24 Ay Ve 0-21 Yaş Arası RTS'li Kız Çocuklarının Yaşa Göre Boy Uzunluğu Persentil Değerleri



Şekil 2. 0-24 Ay Ve 0-21 Yaş Arası RTS'li Erkek Çocuklarının Yaşa Göre Boy Uzunluğu Persentil Değerleri

Beslenme Durumu

RTS'li çocukların genelinde görülen temel beslenme problemleri besin tüketme zorlukları, gastroözofageal reflü ve konstipasyondur. RTS'li çocukların

%93'ünde beslenme güçlükleri saptanmıştır.[2] Bebeklikteki zorluklar arasında; zayıf emme, kolay yorulma, boğulma ve öğürme, aşırı duyarlılık, dokunsal savunuculuk ve sütten katı bebek mamasına zayıf geçiş sayılabilmektedir. Emzirmeyi deneyen RTS'li bebeklerin anneleri, bebeklerinde, düşük ağırlık kazanımı, zayıf meme kavrama, gelişme geriliği, yutma güçlüğü, bebek yorgunluğu ve GÖRH bildirmiştir.[2, 9] Pnömoniler ve bazı tekrarlayan solunum yolu enfeksiyonları ve reflü ile ilişkili tekrarlayan aspirasyonların RTS'li bebeklerdeki ölümlerin önemli bir kısmını kapsadığı vurgulanmıştır. Kusma olmadan da belirgin GÖRH geliştiği bildirilmiştir. GÖRH ayrıca özofajit, özofagus stenozu, hematemez, demir eksikliği anemisi, sinirlilik, epigastrik ağrı, kronik öksürük, hırıltı, reaktif hava yolu hastalığı, pulmoner fibroz, ses kısıklığı ve gelişme geriliğine neden olabilmektedir. Bazı vakalarda eozinofilik özofajit bulunmuştur. Uzun süreli özofajitin, özofagus adenokarsinomu gelişiminde nedensel bir faktör olduğuna dair artan kanıtlar vardır. Çocukluk ve ergenlik döneminde RTS'li bireylerin yaklaşık %20'sinde bireyin bodurluğuna bağlı obezite kaydedilmiştir.[2]

Tıbbı Beslenme Tedavisi

RTS'li bebeklerin beslenme problemlerinin yönetilmesinde çeşitli tedaviler denenmektedir. Özellikle GÖRH ve özofajitten yakınan bebek ve çocuklarda formula seçimi, besleme teknikleri, yoğunlaştırılmış besinler, tütün dumanından kaçınma ve doğru emzirme pozisyonu verme ile ilgili basit tavsiyeler, önemli sayıda bebekte semptomları iyileştirmektedir. Gecikmiş mide boşalması, GÖRH ve özofajit için medikal tedaviler denenmektedir. Ancak ilaçların ileri vadedeki yan etkileri veya pediatrik gruptaki dozlarında tartışmalar mevcuttur.[2]

Nütrisyonel veya tıbbi önlemler kontraendike ise gastrostomi tüpü yerleştirme ile Nissen fundoplikasyonu uygulaması gibi cerrahi prosedürler denenmektedir. GÖRH için fundoplikasyonun komplikasyonları arasında fundoplikasyonun mediastenine prolaps, bağırsak tıkanıklığı ve özofagus darlığı gibi semptomlar görülebilmektedir. Ayrıca, uzun süreli takipte, komplikasyonlar arasında gaz, şişkinlik, kusamama, yavaş yeme alışkanlıkları ve katı besin kaynaklı boğulma olduğu bildirilmiştir.[2]

RTS'li bireylerde reflü veya özofajitin etiyolojisi henüz kesinleşmemiştir. Zihinsel engellilik bildirilen bireylerde GÖRH prevalansının %50 olduğu ve bu hastaların %70'inde özofajit, %14'ünde Barrett özofagusu olduğu bildirilmiştir. Yalnızca, şiddetli GÖRH riskini artıran faktörler arasında skolyoz, ciddi duruş bozukluğu ve inatçı nöbetler olduğu vurgulanmıştır. Bu nedenle RTS'li bireylerdeki yaklaşım, reflü semptomlarını önlemeye yönelik olmaktadır.[2, 12]

Beslendikten sonra bebek veya çocuğun supin pozisyonda yatırılması (oturma pozisyonu karın içi basıncını dolayısıyla reflüyü artırmaktadır, pron pozisyon reflü miktarını azaltabilse de ani bebek ölümü sendromu endişesi nedeniyle önerilmemektedir), ticari olarak yoğunlaştırılmış formüllerin kullanılması, medikal tedavilerin denenmesi (prokinetik ajanların rutin kullanımını destekleyen hiçbir veri yoktur), özofajitten şüpheleniliyorsa H2 antagonistleri veya proton pompası inhibitörleri kullanılması reflü için yaygın öneriler arasındadır. Nissen veya Thal fundoplikasyonlarının reflü cerrahisinde en yaygın kullanılan teknikler olduğu bildirilmiştir. Gastrik boşalma gecikirse veya diğer motilite bozuklukları mevcutsa, metoklopramid veya düşük doz eritromisinin kullanılması tercih edilmiştir. Ayrıca, reflüsü olan bebeklerde kullanılan Sisaprid, kardiyak aritmilerle ilgili endişeler nedeniyle sınırlandırılmıştır.[2]

Pre-operatif süreçte çok sık görülen demir eksikliği anemisi ve hipoalbuminemiyi düzeltmek ve pozitif nitrojen dengesini ve ağırlık kazanımını desteklemek amacıyla kısa süreli nazojejunal beslenme uygulanabilir. Ancak, uzun vadede tüple ilişkili komplikasyonlardan dolayı fundoplikasyon bir seçenek olarak görülmezse, cerrahi olarak yerleştirilmiş bir jejunostominin yeterli

beslenme desteği sağlayacağı vurgulanmıştır.[2]

Nissen fundoplikasyonu sonrası beslenme önerileri sırasıyla; berrak açık sıvı diyet, iki ay süresince yumuşak veya yarı katı diyet, az az sık sık beslenme, besinleri iyice çiğneme, kuru ekmek, et, köfte veya tavukgöğsü gibi kuru besinlerin tüketilmemesi ve iki ayın sonunda her seferinde yeni bir besine başlanması gibidir.[14]

European Society of Paediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN)'a göre GÖRH'lü bir bebeğin uzun süreli hipokalorik veya berrak sıvı alımı asla uygun değildir. Bebeklerde uygulanan ilk beslenme önerisi formulanın; protein hidrolizatı veya amino asit bazlı bir formülle değiştirilmesi gerektiğidir.[15]

RTS'deki diğer bir sorun olan konstipasyon için ana beslenme tedavisi; fiziksel aktivite, diyet lifi ve sıvı şeklindedir. Üç yaşından sonra küçük çocuklarda 5g×yaş/gün diyet lifi alımı önerilmektedir. Stasse-Wolthuis ve ark.[16] Çalışmalarında, diyet lifi kaynağı olarak meyve ve sebzeler kullanıldığında eklenen lifin gramı başına 1,9 gr ve karabuğday kepeği için eklenen lifin gramı başına dışkı ağırlığındaki ortalama artışın 4,1 gr olduğunu göstermiştir. Konstipasyon, gelişimsel yetersizliği olan çocuklarda sık görülen bir sorundur. Özellikle batın içi hipotoni kaynaklı görülebileceği bildirilmiştir. Diyet lifi alımını günde 17-21 gr'a çıkarmak konstipasyon sorununu hafifletmekte ve hareketsiz hastalarda laksatif kullanımını önemli ölçüde azaltmaktadır.[2, 15]

EP300 varyantında meydana gelen RTS'de hiperinsülinizm mekanizması net değildir. Hem CREBBP hem de EP300 genlerinin normal pankreatik adacık hücresi gelişimi, beta hücre fonksiyonu ve hayatta kalma için gerekli olduğu bildirilmiştir. Ancak, pankreasın adacık hücrelerinde EP300 veya CREBBP bulunmayan ratlarda, alfa ve beta hücre kütlesinin azaldığı ve hipoinsülinemi geliştiği görülmüştür. Dolayısıyla RTS'de yeterli düzeyde diyet lifi ile beslenme, yalnızca konstipasyon sorunu için değil aynı zamanda kan glukozunun regülasyonu için de elzem görünmektedir.[9]

SONUÇ VE ÖNERİLER

Rubinstein-Taybi Sendromu, plurimalformatif sendromlar olarak adlandırılan, popülasyondaki düşük prevalansı ve insidansı nedeniyle nadir sayılan hastalık grubundandır. Bu sendromun etiyolojisi, patofizyolojisi veya klinik bulguları kısmen tanımlanmıştır. Dolayısıyla, tanı ve önleme süreci için daha geniş çalışmalara ihtiyaç duyulmaktadır. Bu hastalığın tıbbi beslenme tedavisi yalnızca semptomları iyileştirmeye yöneliktir. Hastalığa özgü koruyucu veya tedavi edici bir beslenme uygulaması henüz bulunamamıştır. Sonuç olarak, bu hastalık için erken tanı çalışmaları ve adjuvan nütrisyonel tedavi düşünülmelidir.

KAYNAKLAR

1. Van Gils, J, Magdinier, F, Fergelot, P, and Lacombe, D. (2021). "Rubinstein-Taybi Syndrome: a Model of Epigenetic Disorder". Genes, 12 (7), 968.

2. Ekvall, S, Ekvall, S.W and Ekvall, V.K. (Eds.). (2005). "Pediatric Nutrition in Chronic Diseases and Developmental Disorders: Prevention, Assessment, and Treatment". Oxford University Press.

3. Fergelot, P, Van Belzen, M, Van Gils, J, Afenjar, A, Armour, C.M, Arveiler, B and Hennekam, R.C. (2016). "Phenotype and Genotype in 52 Patients with Rubinstein–Taybi Syndrome Caused by EP300 Mutations". American Journal of Medical Genetics Part A, 170 (12), 3069-3082.

4. Wiley, S, Swayne, S, Rubinstein, J.H, Lanphear, N.E and Stevens, C.A. (2003). "Rubinstein-Taybi Syndrome Medical Guidelines". American Journal of Medical Genetics Part A, 119A (2), 101–110. https://doi.org/10.1002/ajmg.a.10009

5. Awan, N, Pearson, E, Shelley, L, Greenhill, C, Tarver, J and Waite, J. (2022). "The Behavioral Phenotype of Rubinstein–Taybi Syndrome: A Scoping Review of The Literature". American Journal of Medical Genetics Part A, 188 (9), 2536-2554.

6. Münevveroglu, A.P ve Akgöl, B.B. (2012). "Rubinstein-Taybi Syndrome: A Case Report". Case Reports in Dentistry, 2012, 483867. https://doi.org/10.1155/2012/483867

7. Bueno, A.L.A, de Souza, M.E.V, Graziadio, C and Kiszewski, A.E. (2020). "Multiple Pilomatricomas in Twins with Rubinstein-Taybi Syndrome". Anais Brasileiros de Dermatologia, 95, 619-622.

8. Ciriacks, K, Knabel, D and Waite, M.B. (2020). "Syndromes Associated With Multiple Pilomatricomas: When Should Clinicians Be Concerned?". Pediatric Dermatology, 37 (1), 9-17.

9. Wild, K.T, Nomakuchi, T.T, Sheppard, S.E, Leavens, K.F, De León, D.D and Zackai, E.H. (2021). "Hyperinsulinism in An İndividual with An EP300 Variant of Rubinstein-Taybi Syndrome". American Journal of Medical Genetics Part A, 185 (4), 1251-1255.

10. Milani, D, Manzoni, F.M.P, Pezzani, L, Ajmone, P, Gervasini, C, Menni, F and Esposito, S. (2015). "Rubinstein-Taybi Syndrome: Clinical Features, Genetic Basis, Diagnosis, and Management". Italian Journal of Pediatrics, 41 (1), 1-9.

11. Hutchinson, D.T and Sullivan, R. (2015). "Rubinstein-Taybi Syndrome". Journal of Hand Surgery, 40 (8), 1711-1712.

12. Kumar, P and Thota, P.N. (2020). "Barrett's Esophagus in Rubinstein-Taybi Syndrome". Cureus, 12 (11), e11709. https://doi.org/10.7759/cureus.11709

13. Moe, J.K, Holland, M.D and Johnson, R.K. (1998). "Breastfeeding Practices of Infants with Rubinstein-Taybi Syndrome". Journal of Human Lactation, 14 (4), 311-315.

14. Soldavini, J. (2019). "Krause's Food & The Nutrition Care Process". Journal of Nutrition Education and Behavior, 51 (10), 1225.

15. Romano, C, Van Wynckel, M, Hulst, J, Broekaert, I, Bronsky, J, Dall'Oglio, L and Gottrand, F. (2017). "European Society For Paediatric Gastroenterology, Hepatology And Nutrition Guidelines For The Evaluation and Treatment of Gastrointestinal And Nutritional Complications in Children with Neurological Impairment". Journal of Pediatric Gastroenterology and Nutrition, 65 (2), 242-264.

16. Stasse-Wolthuis, M, Albers, H.F, Van Jeveren, J.G, Wil de Jong, J, Hautvast, J.G, Hermus, R.J, Katan, M.B, Brydon, W.G and Eastwood, M.A. (1980). "Influence of Dietary Fiber From Vegetables and Fruits, Bran or Citrus Pectin on Serum Lipids, Fecal Lipids, And Colonic Function". The American Journal of Clinical Nutrition, 33 (8), 1745–1756. https://doi.org/10.1093/ajcn/33.8.1745

17. Beets, L, Rodríguez-Fonseca, C and Hennekam, R.C. (2014). "Growth Charts For Individuals with Rubinstein–Taybi Syndrome". American Journal of Medical Genetics Part A, 164 (9), 2300-2309

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Türkiye ve Seçilmiş Avrupa Ülkelerinde Evde Bakım Hizmetlerinin Organizasyonu, Kapsamı ve İçeriği

Organization, Scope and Content of Home Care Services in Türkiye and Selected European Countries

Aykut AYDIN[1]

ÖZ

Evde bakım hizmetleri, sağlık, sosyal politika ve sosyal hizmet literatüründe giderek popüler bir bakım uygulaması haline gelmiştir. Küresel bazda, dönüşen aile yapıları, değişen demografiler, maliyet odaklı düşünme ve uygulamaya koyma davranışları, sağlık ve sosyal politika alanını etkilemiş ve sağlık ve sosyal bakım organizasyonunda, kapsamında, içeriğinde ve sunumunda değişim yaşanması kaçınılmaz olmuştur. Bu kaçınılmazlık, evde bakım uygulamalarının, sağlık bakım sistemlerindeki ağırlığını artırmıştır.

Evde bakım hizmetleri; ülkelerin kendine has şartlarından etkilenmektedir. Demografik, sosyal, ekonomik ve yönetsel yapılar; evde bakım hizmetlerinin örgütlenme yapısı, kapsamı ve niteliği üzerinde belirleyicidir. Avrupa, sosyal politika deneyimi ve yaşlı bir kıta olması nedeniyle evde bakım hizmetlerinde önemli bir yol kat etmiştir. Türkiye de kurumsal sosyal politika geçmişi ve deneyimiyle evde bakım hizmetlerini yerine getirmektedir.

Evde bakım hizmetleri konusunda, toplumların önünde güçlü sorunlar bulunmaktadır. Organizasyona dair sorumluluğun ve müdahalelere ilişkin sınırların keskin biçimde çizilemediği, kamu ve özel müdahalerdeki karmaşıklığın giderilemediği ve yüksek kayıt dışılığın engellenemediği bazı örnekler mevcuttur. Evde bakım hizmetlerinin sunumunda verimliliğin artırılması için bu engelleyici faktörlerle mücadele edilmesi önemlidir. Bunun için hizmetlerin çeşitlendirilmesi, uygun müdahalelerin yapılması, yeni teknolojilerden ve profesyonellerden yararlanılması gerekmektedir. Bu çalışmada, seçilmiş Avrupa ülkeleri ve Türkiye'de evde bakım hizmetlerinin organizasyonuna, kapsamına ve içeriğine değinilerek, evde bakım hizmetlerindeki sorumluluğun nasıl paylaşıldığını, bu hizmetlerden kimlerin yararlandığını ve hangi tür hizmetlerin sunulduğunu belirlemek amaçlanmıştır.

Anahtar Kelimeler: Avrupa, Engelli, Evde Bakım, Türkiye, Yaşlı.

ABSTRACT

Home care services have become an increasingly popular care practice in health, social policy and social work literature. On a global basis, transforming family structures, changing demographics, cost-oriented thinking and implementation behaviors have affected the field of health and social policy, and changes in the organization, scope, content and presentation of health and social care have become inevitable. This inevitability has increased the importance of home care practices in health care systems.

Home care services are affected by the unique conditions of the countries. Demographic, social, economic and administrative structures are decisive on the organizational structure, scope and quality of home care services. While Europe has come a long way in home care services due to its social policy experience and being an old continent, Turkey provides home care services with its corporate social policy history and experience.

There are serious problems facing societies regarding home care services. There are some examples where organizational responsibility and boundaries regarding interventions cannot be clearly drawn, the complexity of public and private interventions cannot be eliminated, and high levels of informality cannot be prevented. It is important to combat these hindering factors to increase efficiency in the delivery of home care services. For this, it is necessary to diversify services, make appropriate interventions, and benefit from new technologies and professionals. In this study, it is aimed to determine how the responsibility for home care services is shared, who benefits from these services and what types of services are offered by touching on the organization, scope and content of home care services in selected European countries and Turkey.

Keywords: Europe, Disabled, Home Care, Türkiye, Elderly.

[1] Doç. Dr., Aykut AYDIN, Sosyal Politika, Kırklareli Üniversitesi, İ.İ.B.F., Çalışma Ekonomisi ve Endüstri İlişkileri Bölümü, aykutaydin@klu.edu.tr, ORCID: 0000-0003-2834-1416

İletişim / Corresponding Author: Aykut AYDIN

e-posta/e-mail: aykutaydin@klu.edu.tr

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GİRİŞ

Evde bakım, bakım hizmetleri literatürüne yenilik getiren bir uygulama olmasının yanında içeriğinde, bakıma muhtaç insanların yerinde yaşlanmalarına fırsat tanıma potansiyeli barındırması açısından da son dönemin popüler bakım hizmetidir. Evde bakımda, kamuya veya özele ait sağlık kuruluşlarına erişim imkânı zayıf olan ya da sağlık kurumlarındaki yoğunluğu azaltma gibi bir tercihe dayalı olarak tıbbi ve sosyal birtakım bakım hizmetleri evde sunulmaktadır. Beraberinde birçok faydayı da getiren bu bakım uygulamasının yararlanıcılarının büyük bölümü yaşlı ve engelli kimselerdir. Küresel yaşlanma göz önüne alındığında evde bakım hizmetlerinin önemi daha iyi anlaşılacaktır. Bakım konusuna yönelik gündemin yoğunlaşacağı pekâlâ tahmin edilebilmektedir. Yerinde, aktif ve sağlıklı yaşlanma gibi modern sayılabilecek bazı kavramların argümanlarının, yaşlılar üzerindeki pozitif etkisi ortaya koyulduğunda, evde bakım hizmetlerinin de içeriği ve niceliğine dönük tartışmaların olması kaçınılmazdır.

Bakım konusunda bir başka gündem de bakım hizmetlerinin organizasyonu ile ilgilidir. Bakım hizmetleri, hemen hemen her dönemin kamusal ya da özel gereklilikleri iken son dönemde daha da popülerlik kazanmıştır. Bu hizmetlerin hangi kurumlar ya da kimler tarafından karşılanması gerektiğine dair endişeler, gün geçtikçe daha fazla dile getirilmektedir. Elbette, bu durumun birtakım nedenleri bulunmaktadır. Bu nedenlerden birisi, toplumların yaşadığı demografik dönüşümlerdir. Nüfustaki ağırlıkları artan yaşlı nüfus grubunun, bu hizmetleri ağırlıklı olarak talep eden kesimler olduğu bilindiğinden, bu hizmetlerin daha fazla konuşulması normal karşılanmalıdır. Bir başka neden, birbiriyle bağlantılı birkaç nedeni ve konuyla ilgili tek bir sonucu içermektedir. Birçok toplumda (geleneksel toplumlar dahil) aile yapılarının değişmesi, bakım sorumlulukları ile ünlenen kadınların çalışma hayatına katılmak istemeleri, genç kadınların eğitim sürelerinin artması ve daha iyi yaşam beklentileri derken, bakım ihtiyacı duyan kimselerin bakımının aileleri tarafından yerine getirilmesinin tartışılır hale gelmesidir. Bir başka neden de aslında evvelden beridir tartışılagelen bir konu ile ilgilidir. İkinci nedenle de oldukça ilişkilidir. Bakım hizmetlerini kimin ya da kimlerin sunması gerektiği tartışmaları eskiden beridir yapılmaktadır. Kamunun bu konuda rol üstlenmesi gerektiği görüşü, uygulamada önemli bir başarı elde etmiş olsa da, kamunun sosyal politika uygulamalarındaki rolü, hala tartışmalıdır. Bu tartışmaların, tartışmadan ibaret kalmadığını, sosyal politikada kamunun ağırlığının önemli ölçüde azaldığını bazı uygulama örneklerinde görebilmekteyiz. Hal böyleyken, bakım hizmetleri sunumunda sorumluluğun da kamunun sırtından atması gereken bir yük olarak algılanabileceği, bu konuya yönelik tartışmaların zaman içinde alevlenebileceği (yukarıdaki nedenler düşünüldüğünde) beklentileri, bir kenarda tutulmalıdır.

Çalışmada bu beklentileri de göz önünde bulundurarak, seçilmiş Avrupa ülkeleri ve Türkiye'de evde bakım hizmetlerinin organizasyonuna, kapsamına ve içeriğine göz atmak; evde bakım hizmetlerindeki sorumluluğun nasıl paylaşıldığını, bu hizmetlerden kimlerin faydalandığını ve hangi tür hizmetlerin sunulduğunu belirlemek amaçlanmıştır.

KAVRAMSAL ARKA PLAN

Dünya Sağlık Örgütü (WHO) evde bakım hizmetlerini, "hasta kimselere evlerinde verilen fiziksel, psikososyal ve palyatif faaliyetler de dahil olmak üzere her türlü bakım hizmetleri" olarak tanımlamaktadır.[3]

Evde bakım hizmetleri başka bir tanımda, esas olarak bakım ihtiyacı bulunan kimselerin kendi ortamlarında desteklenmesini, alıştıkları sosyal yaşamları korumalarının sağlanmasını, yaşamlarını olabildiğince aktif, mutlu, huzurlu biçimde sürdürerek sosyal yaşama katılımlarının sürdürülmesini destekleyen, fizyolojik, tıbbi, sosyal ve psikolojik hizmetleri içeren bir bakım modeli olarak ifade edilmektedir.[9]

Doğurganlık hızının düşmesi ile azalan doğum oranları ve doğuşta beklenen yaşam süresinin yükselmesi gibi nedenler, yaşlı nüfus grubunun oranının toplam nüfustaki payının artmasını beraberinde getirmiştir. Nüfus içerisinde yaşlı bağımlı nüfusun payının artması, başta sağlık olmak üzere, bakım ve sosyal güvenlik gereksinimlerini artıracaktır. Bununla beraber yaşlı kimseler için yerinde yaşlanabilme fırsatlarını maksimize edecek sürdürülebilir politikaların uygulamaya geçirilmesi gerekmektedir. Gelişmişlik seviyesine göre değişmekle birlikte ülkeler, yaşlı vatandaşlara dönük genellikle kurum bakımı ve evde bakım hizmeti sunmaktadır. Son dönemde yukarıda sayılan nedenler, ülke uygulamalarında evde bakım politikalarının ağırlığını artırmıştır. [13]

Küresel düzeyde bir ortak sorun olarak toplumların yaşlanma eğiliminde olmaları, bakım hizmetlerine yönelik yapılan harcamaların da artma eğiliminde olması gerçeğini beraberinde getirmektedir.[1] 2022 yılı için Dünya'daki 65 yaş ve üzeri yaşlı nüfus oranı % 10 olarak gerçekleşirken[28], aynı yıl için 800 milyona tekabül eden bu nüfus grubunun 2050 yılına gelindiğinde ikiye katlanacağı öngörülmektedir. Gelişmiş ekonomilere sahip ülkelerde bu oranlar daha çarpıcıdır. Örneğin, Almanya'da yaşlı nüfus oranı 2022 yılı için yaklaşık % 22, Fransa'da % 21, Birleşik Krallık'ta % 19, İtalya'da % 24 seviyesinde iken, aynı yıl içinde bu oran, Kanada'da % 19, ABD'de % 17,5, Japonya'da % 29'dur.[26] Türkiye'de ise uzun yıllar göreli düşük seyreden yaşlı oranı, 2022 yılında % 9,9 seviyesinde[27], 2024 yılı itibariyla da % 10 seviyesinin üzerinde gerçekleşmiştir. Türkiye'de doğum oranlarındaki büyük düşüş eğiliminin yanı sıra uzayan yaşam süreleri sonucunda hızlı bir yaşlanma süreci yaşanmaktadır. Bu sürecin çıktılarından birisinin, yaşlı bağımlılık oranındaki artış olduğu bilindiğine göre, sağlık ve sosyal güvenlik sisteminde önümüzdeki yıllarda daha yüksek sesle konuşulması güçlü bir olasılık olan yükler, dengesizlikler ve kısıtlılıklar üzerine şimdiden düşünmek gereklidir. Evde bakım hizmetleri, sayısı artacak daha fazla ihtiyaç sahibine ulaştığı, daha erişilebilir bir yapıya kavuştuğu, daha fazla yaşlının yerinde yaşlanabilmesine katkıda bulunduğu ve evlerinden çıkmakta zorlanan daha fazla engellinin sağlık-sosyal bakım ihtiyaçlarını karşılayabildiği ölçüde daha fazla yararlanılması ve kaynak ayrılması gereken başarılı bir model olabilecektir.

Yukarıdaki rakamlar, başta gelişmiş ülkeler olmak üzere, gelişmiş ülkelerden daha hızlı bir biçimde yaşlanan gelişmekte olan ülkeler için genellenecek olduğunda, bakıma ihtiyaç duyacak kimselerin sayısının artmasının, sağlık ve bakım hizmetlerinin yoğunluğunun artması anlamına geleceği şüphesizdir. Günümüz sosyal devletlerinin temel görevlerinden birisi de bakıma ihtiyacı olan kimselere bu hizmetleri ulaştırmaktır.[1]

Sosyal devletler, sosyal güvenlik ve sosyal yardım uygulamalarını yerine getirirken genellikle üç farklı yöntem takip etmektedir: [2]

- Gelir artırıcı yöntemler (yaşlılık aylığı, sosyal destek aylığı, evde bakım aylığı),
- Evde bakım hizmetleri (evde sağlık bakımı, evde sosyal bakım),
- Kurum bakımı.

Evde bakım hizmetleri, bu hizmetlerin en yoğun kullanıcılarının başındaki yaşlı kimselerin yerinde yaşlanmasını da desteklemesi açısından kullanışlı bir sağlık ve bakım hizmeti yöntemidir. Yerinde yaşlanmayla ilgili yapılan birçok araştırmanın bulguları, yaşlı kimselerin büyük bir bölümünün mümkün olduğu mertebe alışageldikleri ortamda yaşamayı sürdürme iradeleri olduğunu ortaya koymaktadır. Ancak, yaşlılık sürecindeki engellilik halleri, bakım sunacak eş, çocuk ya da yakınların bulunmayışı, ihtiyaç duyulan bu hizmetleri

sunacak profesyonel yöntemi karşılama konusunda maddi güçsüzlük, bu düşüncenin pratiğe dönüşebilmesinin önünde önemli engellerdir.

Avrupa'da evde bakımı tanımlamanın ilk adımı olarak EURHOMAP projesi (Avrupa'da profesyonel evde bakımın haritalandırılması), Avrupa ülkelerindeki evde bakım hakkında bilimsel literatürün neler söylediğini bulmak amacıyla bilimsel literatürün sistematik bir incelemesini üstlenmiştir.[4] EURHOMAP projesi, 32 Avrupa ülkesinde evde bakım hizmetlerinin çeşitli yönlerine ilişkin bilgilerin toplanması, analiz edilmesi ve dağıtılması yoluyla evde bakım (sağlık ve sosyal) hizmetlerinin organizasyonunu ve sunumunu tanımlamayı ve karşılaştırmayı amaçlamaktadır.[5] Bu inceleme sonucu evde bakım; rehabilite edici, destekleyici ve teknik hemşirelik bakımı, ev içi yardım ve kişisel bakımın yanı sıra resmi olmayan bakıcılara sağlanan geçici bakımı da içeren 'ihtiyaçları resmi olarak değerlendirilen yetişkinlere evde sağlanan profesyonel bakım' olarak tanımlanmıştır. Evde bakım, karmaşık ihtiyaçları olan kimselere yönelik bakımdan (örneğin 24 saat destek), yalnızca ara sıra nispeten basit görevlerde yardıma ihtiyaç duyan kimselere yönelik bakıma kadar değişebilmektedir.[4]

Evde bakım hizmetlerinin tıbbi ve sosyal boyutları bulunmaktadır. Evde bakım denildiğinde akla ilk olarak çoğu zaman evde sağlık bakımı gelmektedir. Evde bakım hizmetleri, evde sağlık bakım hizmetlerinden ibaret değildir. Modern evde bakım hizmetleri, her iki boyutu da içeren hizmetlerden oluşmaktadır.

Evde bakım hizmetleri; günlük fonksiyonlarını yerine getirme konusunda yardım ihtiyacı içerisinde olanları desteklemek, esas manada bu kimselerin yaşam kalitelerini sürdürmelerini sağlamayı ve artırmayı amaçlamaktadır. Bu yüzden evde bakım hizmeti götürülen kimselerin yaşadıkları sorunlara yalnızca tıbbi olarak değil, aynı zamanda sosyal olarak yaklaşmak gerekmektedir.[6]

Pek çok ülkede evde bakım hizmetlerinin, sağlık ile sosyal sistem arasında bir kesişme kümesinde yer aldığı, bu hizmetlerin ikisinin de kendine has özellikler taşıdığı söylenebilir. Geleneksel şekilde, sağlık hizmetleri ile sosyal sistemler ayrımı, ev ortamında sunulan hizmetin niteliğine (sağlıkla veya sosyal hizmetle ilgili) bağlıdır. Sağlık sistemleri tarafından sağlanan evde bakım hizmetleri genellikle evde sağlık bakımı ve sosyal bakımı içermektedir. Evde sağlık bakımı, hem kronik hem de akut durumlar için rehabilitasyon, destekleyici, sağlığı geliştirici veya hastalıkları önleyici ve teknik hemşirelik bakımı (ikincisi daha çok evde hastane programları olarak bilinmektedir), mesleki terapi ve fizyoterapiyi içermektedir. Evde sağlık bakımı alıcılarının çoğunlukla yaşlılar, karmaşık hastalıkları olan kimseler ve ölümcül hastalığı olan kimseler olacağı tahmin edilmektedir. Geleneksel şekilde sosyal hizmet sektörünün sağladığı evde bakım hizmetleri ise; alışveriş, yemek pişirme, temizlik ve idari evrak işleri (form doldurma ve fatura ödeme gibi), sosyalleşme veya yürüyüşe çıkma ve kişisel bakım sağlama (banyo ve giyinme konusunda yardım vb.) gibi ev işlerini içermektedir. Bu hizmetler genellikle resmi olmayan bakımın yerini almaktadır. Evde yardım hizmeti alan kimselerin de çoğunun yaşlı insanlar olduğu ve bunların çoğunun yalnız yaşadığı bilinmektedir.[7]

Evde bakım hizmetlerinin, üç şekilde sınıflandırıldığı görülebilmektedir. Birincisi; evde bakım, yukarıda da değinildiği gibi sadece tıbbi hizmetlerin sunulmasından ibaret olmayıp, ayrıca kişinin ihtiyaç hissedebileceği sosyal hizmetleri de içermektedir. İkincisi; evde bakım, kısa ya da uzun dönemli sunulabilmektedir. Hizmet kapsamları çoğu zaman farklılık arz etmektedir. Kısa dönemli sunulan evde bakım hizmetlerine bakıldığında, tıbbi hizmet ağırlıklı olduğu, büyük oranda hastane sonrası nekahat süreci içerisinde sunulduğu görülmektedir. Genel itibariyle bu dönem, 30 gün ile sınırlandırılmıştır. Uzun dönemli evde bakım hizmetlerine bakıldığında, tıbbi ve sosyal bakım hizmetlerini içerdiği, sosyal bakım ağırlıklı olduğu ve 6 aydan daha uzun süreli bakım ihtiyacı olan kimselere yönelik sunulan hizmetleri kapsadığı görülmektedir.

Üçüncüsü ise; farklı meslek dallarında profesyonel veya yarı profesyoneller tarafından verilen evde bakım (formal care) hizmeti ile aile bireylerinin sağladığı evde bakım hizmetidir (informal care). Genel itibariyle, profesyonel seviyede sunulan (formal care) evde bakım hizmetleri aşağıdaki hizmetleri içermektedir[8]:

- Hemşirelik hizmetleri: İhtiyacı olan kimsenin ikamet yerine belirli aralıklarla, düzenli olarak hemşire ziyaretlerini ve evde hemşirelik hizmetlerini içermektedir.
- Destek sağlık hizmetleri: Fizik tedavi, ayak bakımı, psikoterapi konuşma ve meşguliyet terapisi gibi gerek kişinin hareketini gerek ev ortamında bir başkasına muhtaç olmadan yaşamını sürdürebilmesine fayda sağlayacak hizmetleri içermektedir.
- Gündüz/Gece bakımı: Bakıma muhtaç kimselerin ihtiyaçlarına yönelik genelde uzun dönemli hizmetleri içermektedir.
- Kişisel bakım (Öz bakım): Bakıma muhtaç kimsenin banyo, giyinme ihtiyaçlarının karşılanması gibi günlük yaşam aktivitelerinin desteklenmesine yönelik hizmetleri içermektedir.
- Ev işlerine yardım (Ev düzeninin sağlanması): Evin temizlik, ütü, alışveriş gibi günlük ihtiyaçlarının desteklenmesi ile evi, daha düzenli ve güvenli bir ortam haline getirecek ev düzeni değişikliklerinin temin edilmesine yönelik hizmetleri içermektedir. Örneğin, kapı-kilit tamiri, çatı tamiri, çıkış rampalarının oluşturulması, banyo güvenliğinin sağlanması, tekerlekli sandalyenin ev ortamında dolaşımının önündeki engellerin kaldırılması gibi.
- Sosyal destek: İhtiyacı olan kimsenin alışverişine yardım edilmesi, faturalarının ödenmesi, randevularına ulaştırılması, sosyal aktivitelere ve arkadaş ziyaretlerine götürülmesini temin edecek hizmetleri içermektedir.
- Gıda ve beslenme hizmetleri: Ev ortamında yemek pişirme ve hazırlama işlevinden yoksun kimseler için evlere yemek dağıtım hizmetlerini içermektedir.
- Danışmanlık hizmetleri: İhtiyacı olan kimsenin hak ve ödevleri konusunda öneri ve danışmanlık hizmetleri ile kişinin istek ve şikâyetlerinin değerlendirildiği hizmetleri içermektedir.

Evde sağlık hizmeti, hastaların yaşam koşullarını iyileştirmek, hastanelerdeki sıkışıklığı ve sağlık sisteminin artan maliyetini azaltmak amacıyla tıbbi ve paramedikal hizmetlerin hastalara evlerinde sunulmasından oluşur.[10] Evde sağlık bakımı, bakıma ihtiyaç duyan kimselerin bağımsızlığını ve yaşam kalitesini desteklemenin yanı sıra daha uygun maliyetli olması gibi geleneksel hastane temelli sağlık hizmetlerine göre önemli faydalar sağlar.[11]

Birçok ülkede evde bakım hizmetleri, evde sağlık hizmetleri adı altında sunulmaktadır. Bu ülkelerde evde sağlık hizmetleri, çoğu zaman sadece hasta ve hastalığa dönük bir faaliyet anlamına gelmemektedir. Tüm sağlık bakım hizmetlerini ve sosyal bakım hizmetlerini kapsamaktadır. Özellikle Avrupa ve ABD'de önemli evde sağlık hizmeti örgütlenmelerinden birisi "hastane temelli evde bakım hizmetleri"dir. Hastane temelli evde bakım denildiğinde, kronik bakımın gerekli olduğu yatan ve ayakta tedavi edilen hastalar için bir alternatif şeklinde doğmuş ve giderek yayılan bir bakım türü akla gelmelidir. Sağlık alanında gelişen teknoloji ve değişen beklentiler nedeniyle evde bakım hizmetleri kapsam genişlemesine uğramaktadır. Erişilebilirlik de peşinden gelmektedir. Evde bakım hizmetleri, bakım ihtiyacı içerisindeki kimselere bağımsızlıklarını ve kendiliklerini muhafaza etme imkânı sağlayarak yaşanan ortamda sağlıklı ve mutlu olmayı temin etmektedir. Bakım gerektiren kimselerin alıştıkları çevreyle iletişimleri, onlar için psikolojik bir iyileşme de sağlamaktadır. Hasta kimselerin hastane ortamında hasta rolünü oynadıkları ve bu rolün, çoğu zaman iyileşme sürecini geciktirdiği düşünülmektedir. Bazı açılardan

hastane hizmetlerinden daha etkili olabileceğine inanılmaktadır ve gerçekten daha ekonomiktir. Evde sağlık hizmetleri, koruyucu sağlık hizmetlerine erişimi desteklemekte, gereksiz yere hastane başvurularını, yatışları, kalış sürelerini ve hastane enfeksiyonlarını azaltmaktadır. Evde bakımın, maliyet ve bakım kalitesi bakımından kurum bakımı için bir alternatif olup olmadığı, bazı ülkelerdeki politika yapıcılar, sağlık profesyonelleri ve finansal uzmanlar tarafından sorgulanmakta[8]; özellikle hasta, hasta yakını ve uzmanlar için zamandan da tasarruf sağlama imkânı vermektedir.

Evde bakım hizmetlerinde uluslarası seviyede üzerinde anlaşma sağlanmış asgari ya da temel bir hizmet sunumu listesi bulunmamaktadır. Bu yüzden ülkelerin, kendi şartları, imkanları, sosyal ve kültürel dinamikleri çerçevesinde aralıklı şekilde güncellenen bir hizmet listesi oluşturduğu söylenebilir. Özellikle evde bakımın kapsamı ile ilgili verilecek kararlarda özen gösterilmeli, kamuoyuna soru işareti olmayacak şekilde duyurulmalıdır. Dünya Sağlık Örgütü'nün Ev Temeline Dayanan Uzun Dönem Bakım (2000) raporunda, uzun dönemli bakımın tanımına da paralel şekilde, uzun dönemli sağlık sıkıntısı yaşayan, günlük yaşam aktiviteleri konusunda desteklenmesi gereken her yaştaki insanların kaliteli bir yaşam idame ettirmesine imkân sağlayacak bir bakıma vurgu yapılmıştır. Bu çerçevede, evde bakım hizmetlerinden yararlanacak hedef kitlenin genel olarak, bulaşıcı hastalığı (tüberküloz gibi) ya da kalp-damar hastalığı, bulaşıcı olmayan kronik hastalığı (kanser gibi), etyolojisine bakılmaksızın, gelişimsel ya da poliomiyelite sekonder engellileri de içerecek biçimde engelli kişiler, HIV/AIDS'liler, kaza sonucu engelli hale gelenler, duyusal engeli olanlar, zihinsel hastalar ve madde bağımlıları olduğu anlaşılmaktadır.[8]

Evde bakım, bakım ihtiyacı içinde olan kimselerin kurum bakımına bir nevi tamamlayıcı statüde bakım tekniklerini içeren "Toplum Temelli Bakım " hizmetlerinin de bir parçası sayılmaktadır. Bu bakım türü, sosyal ihtiyaçların değişmesi, bilimsel ve teknolojik atılımların gerçekleşmesine koşut olarak önemli hale gelmiştir. Bunun önemli nedenlerinden birisi, sosyal hizmetlerde insana bakış açısının değişmesidir. Geçmiş dönemlerde bakıma muhtaç kimselerin korunması ve bakımı öncelik iken, günümüzde kişinin yaşam düzeyinin yükseltilmesi, aktif ve başarılı yaşlanmasının, sosyal katılımının sağlanması hedeflenmektedir. Uzun süreli kurum bakımının insanlar üzerindeki birtakım olumsuz yansımaları (yalnızlık, anksiyete, sosyal dışlanma, tükenmişlik, yabancılaşma gibi) ve gittikçe yükselen maliyeti gibi sebepler, evde bakım uygulamalarının ağırlığını artırmıştır.[9]

Tablo 1'de de görüleceği üzere evde bakım, yerinde yaşlanmayı destekleyici, uygun kimseler için kurum bakımına göre tercih edilir bir alternatiftir. Elbette, kurum bakımının alternatifi olma becerisi, belirli şartların gerçekleştiği varsayımı ile sınırlıdır.

Evde bakım modeli, yaşlı kimselerin yaşlanma sürecini geçirdikleri sosyal ve fiziksel çevre içerisinde kalmalarına imkân veren yerinde yaşlanma anlayışı ile de uyum içerisinde görünmektedir.[13]

Nüfusun yaşlanması, politika yapıcılar, yaşlılar ve aileleri arasında sayıları giderek artan engelli yaşlılara nasıl bakım verilmesi gerektiği konusunda soruların ortaya çıkmasına neden olmaktadır. Yaşlıların çoğu huzurevinde bakım yerine evde bakımı tercih ederken, bazıları, evde bakımın huzurevinde bakımdan daha az maliyetli olduğunu düşünmektedir. Kullanılan evde bakımın türünü ve miktarını belirleyen faktörlerin anlaşılması, gelecekteki kullanımın tahmin edilmesi ve uzun vadeli bakım politikasının geliştirilmesi açısından son derece önemli hale gelmektedir.[14]

Tablo 1: Yaşlı Bakım Modellerinin Karşılaştırılması[12]

	Avantaj	Dezavantaj
Kurum Bakımı	Tercihen ya da zorunlu biçimde aileden ya da çocuklardan ayrı kalan yalnız kimselerin bakım ihtiyacının giderilmesinde işlevseldir.	Yüksek maliyetlidir.
	Sosyo-kültürel olarak benzer yaşlardaki kimselerin ortak aktiviteler yapabilmelerini sağlar.	Genelde toplum tarafından olumsuz bakıldığı için pek tercih edilmektedir.
	Tedavi süreçleri alanında uzmanlarca takip edilir.	Bakıma ihtiyacı olan kişi, ailesinden ve çevresinden uzaklaşmak durumunda kalır.
Evde Bakım	Evde bakım hizmetleri, bakım alan kimselerde ve aile üyelerinde psikolojik sorunların yaşanmasını engellemektedir.	Denetim sistemlerinin yetersiz olması güvenlik ile ilgili sorun yaratabilmektedir.
	Kişiye özel bakım hizmeti verilmesine imkân sağlar.	Yaşlı kimselerin yanında devamlı bir sağlık uzmanının yokluğu bu hizmet türünün bir kısıtlılığı şeklinde düşünülmektedir.
	Erken tanı ve teşhis için imkân sağlar.	Ev ortamında mahremiyet hissi, bakım ve tedavi sürecini olumsuz açıdan etkileyebilmektedir.
Yerinde Yaşlanma	Düşük maliyetlidir.	Yaşam alanı içinde ve çevresinde erişilebilirliğin yetersiz olduğu ya da mümkün olmadığı zaman yerinde yaşlanma ihtimali zayıflayacaktır.
	Kişinin ikamet ettiği ev ortamında yaşamını sürdürür.	
	Kişi, ailesi ve çevresiyle daha çok zaman geçirme imkânı bulur.	Evde bakım hizmetlerinin sunulmadığı bölgelerde yerinde yaşlanma ihtimali zayıflayacaktır.

TÜRKİYE'DE EVDE BAKIM HİZMETLERİ

Türkiye'de evde bakım hizmetlerine değinmeden önce bakıma ihtiyaç duyan kimselere evde bakım hizmeti dışında kamusal yardımlara değinmekte, sonraki bölümde yapılacak bakım sigortası ihtiyacı bulunup bulunmadığını tartışmasına dayanak teşkil edebileceği düşüncesiyle yarar görülmektedir.

Türkiye'de hem finansmanın sağlanmasında hem de uzun süreli bakım sisteminin altyapısının oluşturulmasında en büyük role kamu sektörü sahiptir.[15] Türkiye'de bakıma muhtaç kimselere evde bakım hizmeti sunmanın dışında yapılan belirli yardımlar söz konusudur. Bu yardımlardan birisi, 5510 sayılı Sosyal Sigortalar ve Genel Sağlık Sigortası Kanunu çerçevesinde ve sosyal sigortalar kapsamında sunulan malullük ödeneği'dir. İş kazası ya da meslek hastalığı nedeniyle sigortalılara, geçici veya sürekli iş göremezlik ödeneği adında bir gelir transferi yapılmaktadır. Geçirdiği iş kazası veya meslek hastalığı nedeniyle bir başkasının sürekli bakımına ihtiyaç duyan sigortalılar için sürekli iş göremezlik geliri verilmektedir. Bu kimseler, engellilik hallerinin belirlenmiş bir seviyenin üzerinde olması durumunda, malullük sigortasından karşılanmak üzere malullük aylığına hak kazanmaktadır.[*]

Türkiye'de yine sosyal sigortalar kapsamında olmak üzere doğrudan bakıma muhtaç kimselere yönelik sunulmasa da onları da ilgilendiren bir düzenleme bulunmaktadır. Kadınlara, kolay ya da erken emeklilik avantajı veren bu düzenlemenin içeriğinde,

[*]5510 sayılı Sosyal Sigortalar ve Genel Sağlık Sigortası Kanunu'nun 19. Maddesi'ne göre, "iş kazası ya da meslek hastalığı nedeniyle meydana gelen hastalık ve engellilik sonucu Kurumca yetki verilmiş sağlık hizmeti sunucularının sağlık kurullarınca verilen raporlara istinaden Kurum Sağlık Kurulu tarafından meslekte kazanma gücü asgari % 10 oranında azaldığı tespit edilen sigortalı, sürekli iş göremezlik ödeneğine hak kazanır". Aynı kanunun 25. Maddesi'ne göre, "sigortalının ya da işverenin talebine istinaden Kurumca yetki verilmiş sağlık hizmeti sunucularının sağlık kurulları tarafından usûlüne uygun olarak düzenlenecek raporlar ve dayanağı olan tıbbî belgelerin incelenmesi sonucu, 4. Maddenin birinci fıkrasının (a) ve (b) bentleri kapsamına giren sigortalılar için çalışma gücünün ya da iş kazası ya da meslek hastalığı nedeniyle meslekte kazanma gücünün asgari % 60'ını, (c) bendi kapsamına giren sigortalılar için çalışma gücünün asgari % 60'ını ya da görevlerini ifa edemeyecek biçimde meslekte kazanma gücünü yitirdiği Kurum Sağlık Kurulu tarafından belirlenen sigortalı, malûl sayılır".

başkasının sürekli bakımına muhtaç derecede ağır engelli bir çocuğa sahip olunması öngörülmektedir. Bu taktirde bakıma ihtiyacı olan engelli çocuğa bakmakla yükümlü kadınların daha erken bir zamanda emekliye ayrılabilecekleri hükme bağlanmıştır.

Toplum temelli bakım modellerinden birisi olarak engelli kimseleri ailelerinden ve alıştıkları çevreden ayırmadan akrabaları tarafından bakım hizmetlerinin sağlanması ve toplumla bütünleşmelerinin desteklenmesi maksadıyla Aile ve Sosyal Hizmetler Bakanlığı'nca 2006'da Evde Bakım Yardımı uygulaması başlatılmıştır. Nisan/2023 itibarıyla Evde Bakım Yardımı'ndan yaklaşık 570 bin kişi yararlanmaktadır. Yararlananların yaklaşık 140 binini, engelli bir yaşlıya bakım verenler oluşturmaktadır.[16] Tam bu noktada üzerinde durulması gereken bir husus, bakım hizmeti ile evde bakım ücreti kavramlarının birbirine karıştırılmaması gerektiğidir. Bakım hizmeti, Bakanlık tarafından bakıma muhtaç engelli kimseye sunulan hizmeti; evde bakım ücreti ise eğer bu hizmet bakıma muhtaç engelli kimsenin akrabalarınca karşılanıyorsa, bakım veren kişiye ödenen ücreti ifade etmektedir. Bu manada evde bakım ücreti denildiğinde, bakıma muhtaç engelli kimseye yönelik bakım hizmetini fiilen sunan akrabalarına ödenen ücret anlaşılmalıdır.[17] Bu şekilde değerlendirildiğinde her ne kadar bakımı üstlenen kişiye nakdi bir ödeme yapılıyor olsa da bakım gören kişi açısından bu ücret, 2022 sayılı Kanunda öngörüldüğü gibi bir sosyal yardım değil, alınan sosyal hizmetin bir ücret desteği şeklinde anlamlandırılmalıdır.[18]

Türkiye'de bakıma muhtaç bireylerin sosyal yardımlar ile de güvence altına alındığı görülmektedir. Buna ilişkin bir düzenleme, 10.07.1976 tarihli ve 15642 sayılı resmî gazetede yayınlanan "2022 sayılı 65 Yaşını Doldurmuş, Muhtaç, Güçsüz ve Kimsesiz Türk Vatandaşlarına Aylık Bağlanması Hakkında Kanun"dur. 2022 sayılı Kanun yalnızca 65 yaşını doldurmuş muhtaç yaşlılar için değil, bazı şartlar dâhilinde 01.07.2005 tarih ve 5738 sayılı Kanun ile beraber engelli kimseler için de aylık bağlanması imkânı getirilmiştir. Yaşlı ve engelli aylığı şeklinde iki farklı gelir transferi sağlanmaya başlanmıştır. Ayrıca 2022 sayılı Kanun'un 2. maddesinin 2. fıkrası uyarınca; 18 yaşını tamamlamamış ve engelli oldukları, söz konusu mevzuat kapsamında alınacak sağlık kurulu raporu ile kanıtlanmış kimselere bakım veren Türk vatandaşlarından, her ne ad altında olursa olsun her türlü gelirler toplamı dikkate alınarak hane içinde kişi başı ortalama aylık gelir tutarı 16 yaşından büyükler için belirli asgari ücretin aylık net tutarının üçte birinden az olan ve Sosyal Yardımlaşma ve Dayanışma Vakıfları (SYDV)'nca muhtaç olduğuna karar verilenlere muhtaçlık durumu sürdüğü kadar ve bakım ilişkisinin fiilen gerçekleştirilmesi şartıyla, (3.240) gösterge rakamının memur aylık katsayısı ile çarpımından elde edilecek tutarda aylık bağlanır, hükmü getirilmiştir.[19]

Evde bakım hizmeti, 10.03.2005 tarihli ve 25751 sayılı resmî gazetede yayınlanan "Evde Bakım Hizmetleri Sunumu Hakkında Yönetmelik"te düzenlenmiştir. Bu yönetmeliğin "Tanımlar" başlıklı 4. maddesinde evde bakım hizmeti, "hekimlerin önerileri doğrultusunda hasta kimselere, aileleri ile yaşamlarını sürdürdükleri ortamda, sağlık ekibince rehabilitasyon, fizyoterapi, psikolojik tedaviyi içerecek şekilde ve tıbbi ihtiyaçların da karşılanarak sağlık, bakım ve takip hizmetlerinin sunulması"dır.[20]

01.02.2010 tarihli ve 3895 sayılı resmi gazetede Sağlık Bakanlığı tarafından yayınlanan "Sağlık Bakanlığınca Sunulan Evde Sağlık Hizmetlerinin Uygulama Usul ve Esasları Hakkında Yönerge"deki tanıma göre evde sağlık hizmeti, "...çeşitli hastalıklara bağlı şekilde evde sağlık hizmeti sunumuna ihtiyaç duyan kimselere, evlerinde ve aile ortamında sosyal ve psikolojik danışmanlık hizmetlerini de içerecek biçimde verilen muayene, tetkik, tahlil, tedavi, tıbbi bakım, takip ve rehabilitasyon hizmetleridir".[21]

Türkiye'de evde bakım hizmetlerinin yürütümü de "Sağlık Bakanlığınca Sunulan Evde Sağlık Hizmetlerinin Uygulama Usul ve Esasları Hakkında Yönerge 'de" düzenlenmiştir. Bu yönergenin amacı; "evde sağlık hizmeti sunumuna ihtiyacı olan kimselerin muayene, tetkik, tahlil, tedavi, tıbbi bakım ve rehabilitasyonlarının ev ve aile

ortamında yapılması, bu kimselere ve aile üyelerine sosyo-psikolojik destek hizmetlerinin bütün şekilde verilmesi için Sağlık Bakanlığına bağlı sağlık kurumları nezdinde evde sağlık hizmetleri birimlerinin tesis edilmesi, bu birimlerin asgari fiziki donanımı ile araç, gereç ve personel standardının ve ilgili personelin görev, yetki ve sorumluluklarının tespit edilmesi, iletişim, uygulanacak randevu, kayıt ve takip sisteminin tanımlanması ve uygulamanın denetlenmesine ilişkin yöntem ve esasların tespit edilerek evde sağlık hizmetlerinin sosyal devlet anlayışı ile etkin ve erişilebilir biçimde uygulanmasını sağlamaktır".[21]

Evde bakım modeli kapsamında sunulan hizmetler, uygulamada oldukça çeşitlilik arz etmektedir. Bu hizmetleri, amaç, nitelik, süre ve sağlayıcılar açısından bir sınıflandırmaya tabii tutmak mümkündür. Amaca göre, evde sağlık hizmetleri, evde sosyal hizmetler, evde bakım hizmetleri vb.; niteliğine göre, tıbbi rehabilitasyon, fizyoterapi, ameliyat sonrası bakım, alışveriş, temizlik, yemek, kişisel bakım vb.; süresine göre, kısa ya da uzun süreli; sağlayıcılarına göre, formel/resmî-kurumsal seviyede-kamu-yerel yönetimler, STK'lar, enformel/resmî olmayan-aile üyeleri, vasi vb. şeklinde sınıflandırmak mümkündür.[22]

Evde bakım hizmetlerinin sunumu konusunda ilk düzenleme, Mart-2005 tarihli "Evde Bakım Hizmetlerinin Sunumu" hakkındaki yönetmelikte bulunmaktadır. Sonrasında 5378 sayılı Engelliler Hakkında Kanun ile engelli kimselerin öncelikle bulundukları ortamda bağımsızlıklarını sürdürebilmeleri amacıyla durumlarına uygun şekilde gereken psikososyal destek ve bakım hizmetlerinin sunulması olanağı getirilmiştir. Ağır engelli olduğu sağlık kurulu raporu ile tespit edilen, bakıma muhtaç 65 yaş ve üzeri kimseler de bu çerçevede değerlendirilmektedir. Engelli kimseye evde bakım hizmeti verilmesi, ülkemizdeki engellilik politikalarından biri olmakla beraber, bakıma muhtaç yaşlıların da bu kategoriye dâhil edilmesi, bakıma muhtaç yaşlılığın, engelliliğin bir biçimi olarak algılandığını göstermektedir.[22]

Yalnızca ekonomik sebeplere dayanmayan, sosyal ve kültürel arka planı olan bir durum, evde bakımın ailenin temel misyonu olarak görülmesidir. Her ne kadar kurum bakım ve evde bakım hizmetleri gittikçe artmışsa da ülkemizde evde bakımda, aile üyelerinin önemli rolü olduğu görülmektedir. Aile üyeleri tarafından sağlanan bakım hizmetlerinde, önemli oranda kadınlar (eş, kız çocuğu, gelin) sorumluluk almaktadır. Diğer yandan pek çok Avrupa ülkesinde de aile bireylerinin bakım sıklığı hala çok yüksek oranlardadır. Kadınların işgücüne artan oranda katılımı sonrası, bakıma muhtaç kimselerin bakımında aile üyelerinin yerini giderek daha fazla oranda belirli bir ücret karşılığında çalışan profesyonellerin alacağı tahmin edilmektedir.[8]

SEÇİLMİŞ AVRUPA ÜLKELERİNDE EVDE BAKIM HİZMETLERİ

Avrupa kıtası, ekonomi açısından olduğu gibi sosyal politikalar açısından da gelişmiş bir görünüm sergilemektedir. Sosyal politikalar açısından bazı noktalarda (özellikle kamunun rolünde) geriye gidiş söz konusu olsa da birçok bölgeye göre hala geniş kapsamlı ve göreceli nitelikli sosyal politika uygulamaları söz konusudur. Bu politikalardan birisi de evde bakım hizmetleridir. Avrupa kıtası ülkeleri, evde bakım hizmetleri konusunda önemli aşamalar kaydetmiştir. Bunun nedeni, Avrupa'nın yaşlı bir kıta olmasından ileri geliyor olabilir. Gerçekten de Avrupa, dünyanın en yüksek yaşlı nüfus oranına sahip bölgesidir. Avrupa ülkelerinin kendi demografik, sosyo-ekonomik ve idari yapıları gereği evde bakım hizmetlerini organize ettikleri görülmektedir. Bu bölümde bazı Avrupa ülkelerinde evde bakım hizmetlerinin organizasyonu, kapsamı ve içeriğine yer verilecektir.

Belçika, Birleşik Krallık, Fransa, İspanya, İtalya ve Portekiz gibi pek çok ülke, evde bakımın "sağlık" boyutunun sağlık bakım sisteminin bir parçası olduğu ve "sosyal"

boyutunun, sosyal sistemin bir parçası olduğu bir organizasyon modeline sahiptir. Özellikle Danimarka, Finlandiya ve İsveç gibi ülkelerde politika yapıcılar, evde bakımı tek bir kurumun, yani belediyelerin sorumluluğu altında sağlamanın avantajlarını kabul etmişlerdir. Örneğin, Danimarka'da evde bakım, 1992'den beri belediyeler tarafından sağlanmaktadır. Yerel yönetimleri merkezine alan tek temsilcili çözümlerden farklı olarak, örneğin Almanya ve Hollanda'da evde bakım ve sosyal bakım hizmetlerini kapsayan tek bir finansman akışı (sigortaya dayalı) bulunmaktadır. Bu kurumsal aktörlerin yanı sıra gönüllü, hayırsever ve kâr amacı güden evde bakım hizmetleri sağlayıcılarının da geniş rolleri vardır.[7]

Almanya'da bakım hizmetleri, evde (nakdi veya ayni olmak üzere) ya da kurumsal şekilde sunulmaktadır[15]. Ayrıca Almanya'da kişiler, zorunlu, isteğe bağlı ya da tercih edilmesi durumunda özel bir hastalık sigortası ile hastalık riskine yönelik garantiye kavuşabilmektedir. Bu kimseler aynı zamanda mutlak manada bakım sigortası kapsamına alınmaktadırlar. Almanya nüfusunun tamamına yakını bakıma muhtaçlık riskine yönelik güvence içerisindedir. Sistem, esas olarak hastalık sigortasına bağlanmıştır. Kanun hükmü gereği hastalık sigortası kapsamında olmamakla beraber, bakım sigortasının kapsamına bazı gruplar yine de alınmışlardır. Kişiler açısından bakım sigortasının kapsamı, kanuni hastalık sigortasına göre daha geniş tanımlanmış, toplumun hangi kesimine mensup olursa olsun, bakım ihtiyacı söz konusu olduğunda, bazı karşılıklardan yararlanmaları olanağı tanınmıştır. Bilhassa son dönemlerde bu alanda teknolojik ilerlemelere dayalı olarak ve maliyetlerin gittikçe artması nedeniyle sadece sigortanın kaynaklarıyla yeterli bir bakımın garanti edilemeyeceği ortaya çıkmış durumdadır. Sigortalıların munzam mahiyette özel bir bakım sigortasına dahil olmaları önem kazanmaktadır. Bu durum, sigortalılar için mevcut riski azaltmak, maddi açıdan güvenceyi artırmak anlamına gelecektir. Ancak böylesi ek bir sigortanın primini, herkesin karşılayamayacağı açıktır. Bu husus, sigortalının mali kaynakları ile ilgilidir. Bakıma ihtiyacı olan sigortalıya, muhtaçlık sınıfına dayalı maddi bir karşılık verilmekte veya karşılık, bakım hizmeti şeklinde gerçekleştirilmektedir. Fakat, bazı durumlarda iki karşılık birleştirilebilmektedir. Kanun koyucu, sigortalıların sahip olduğu çevresel şartları göz önünde bulundurmakta, bakım ihtiyacının olabildiğince sigortalının alışık olduğu yaşam biçimine uygun biçimde giderilmesini sağlamak amacındadır. Bakım hizmetini veren kişi, sigortalının aile bireylerinden, yakınlarından ya da profesyonel anlamda bakıcılık hizmeti vermeyen biri ise, bakıma muhtaç kimseye, bakım parası isminde maddi bir karşılık verilmektedir. Söz konusu maddi karşılık, Türkiye'de engellilere verilen bakım parası ile karıştırılmamalıdır. Almanya'da profesyonel olmayan kimselerce bu tarz sunulan bakım hizmeti, fahri bir hizmet şeklinde değerlendirilmektedir. Bakım parasının miktarı, aylık biçimde tespit edilmektedir. Bakıma muhtaç kimsenin, bakıma muhtaçlık sınıflamasına göre de farklılaşmaktadır. Evde bakım hizmetinin, profesyonel bir bakım verence sunulduğu bir durumda, sigortanın sağladığı karşılık, bakım hizmet karşılığı şeklinde adlandırılmaktadır. Durum böyle olduğunda, bakım sigortasınca yapılan ödeme, bu sefer sigortalıya değil, bakım hizmetini sunan kişiye yapılmaktadır. Bu durumda sigortanın ödediği meblağ, bakım parasından daha yüksek olmaktadır.[23]

Tablo 2. Türkiye ve Seçilmiş Avrupa Ülkelerinde Evde Sağlık ve Sosyal Bakım Organizasyonu[7]

Ülke	Evde Sağlık Bakım	Evde Sosyal Bakım
Almanya	Sosyal Sigortalar	Sosyal Sigortalar
Belçika	Merkezi ya da Bölgesel Yönetim	Yerel Yönetim ya da Belediye
Birleşik Krallık	Merkezi ya da Bölgesel Yönetim	Yerel Yönetim ya da Belediye
Danimarka	Yerel Yönetim ya da Belediye	Yerel Yönetim ya da Belediye
Finlandiya	Yerel Yönetim ya da Belediye	Yerel Yönetim ya da Belediye
Fransa	Sosyal Sigortalar ve Yerel Yönetim ya da Belediye	Yerel Yönetim ya da Belediye
Hollanda	Sosyal Sigortalar	Sosyal Sigortalar
İrlanda	Merkezi ya da Bölgesel Yönetim	Merkezi ya da Bölgesel Yönetim
İspanya	Sosyal Sigortalar	Yerel Yönetim ya da Belediye
İsveç	Yerel Yönetim ya da Belediye	Yerel Yönetim ya da Belediye
İtalya	Merkezi ya da Bölgesel Yönetim	Yerel Yönetim ya da Belediye
Portekiz	Merkezi ya da Bölgesel Yönetim	Yerel Yönetim ya da Belediye
Türkiye	Merkezi Yönetim ya da Belediye	Yerel Yönetim ya da Belediye

Avusturya'da bakım görenlerin % 80'ine evde bakım yapılmaktadır. Çekya'da bakım, sağlık tesislerinde, sosyal hizmet tesislerinde ve ev ortamında gerçekleştirilen uzun dönem bakım ile sosyal ve sağlık bakımı yoluyla sağlanmaktadır. Japonya'da uzun dönemli bakımın % 70'i aile üyeleri tarafından sağlanmakta, bunu şirketler (% 13), diğerleri (% 1,0) ve bilinmeyen sağlayıcılar (% 15,2) takip etmektedir[15]. Lüksemburg'da, evde yaşayan bakmakla yükümlü kimseler, özel sektördeki bir sağlayıcıdan yardım almayı veya resmi olmayan yardımı (normalde bir aile üyesi tarafından sağlanmaktadır) veya her ikisinin birleşimini almayı seçebilmektedirler. Bir kurumda yaşıyorlarsa yardım (özel) kurum tarafından sağlanmaktadır. İsviçre'de uzun süreli bakım esas olarak profesyonel olarak, yani bakımevleri tarafından veya hasta evde yaşıyorsa bakım kuruluşları veya serbest çalışan hemşireler tarafından sağlanmaktadır. Ayrıca günlük bakım kurumları, profesyonel bakımın yanı sıra aile bakımıyla da profesyonel bakım sağlamaktadır. Birleşik Krallık ve Estonya'da, yerel yönetimlerin bakıma ihtiyacı olan bir kimsenin uygun ihtiyaçlarını karşılama konusunda yasal bir görevi bulunmakta ve genellikle özel sektör sağlayıcılarıyla sözleşme yaparak, öncelikle yatılı bakım evi ortamında veya bir kimsenin evinde bakım sağlanmaktadır. Estonya'da 2017 yılı itibari ile genel bakım hizmeti sağlayıcılarının 91'i (% 57,6) yerel yönetimlere, 60'ı (% 38,0) özel sektör sağlayıcılarına, 1'i (% 0,6) yabancı özel sektör sağlayıcılarına ve 6'sı (% 3,8) devlete ait bulunmaktadır.[15]

İngiltere'deki evde bakım sisteminin ana sorumluluğu yerel yönetimlere aittir. Yerel yönetimler, özel ve gönüllü sektörle ortaklaşa çalışarak, ihtiyacı olan kimselerin evde doğru yardım ve desteği almasını sağlayarak normal günlük aktivitelerini yerine getirebilmelerini sağlamaktadır. Yerel yönetim yardımına hak kazanan kimselere yönelik bakım hizmetleri ya doğrudan yerel yönetim tarafından ya da dolaylı olarak yerel yönetim adına kuruluşlar, yerel gönüllü kuruluşlar ve hayır kurumları aracılığıyla sağlanmaktadır. Hastaneye gereksiz yatışların önlenmesine yardımcı olmak veya insanların hastaneden daha erken ayrılmasını sağlamak için düzenlenen ev hizmetleri de dahil olmak üzere, bazı hizmetler bir süre (genellikle yaklaşık 6 hafta) boyunca ücretsiz olarak sağlanabilmektedir. Evde bakım kapsamında lisanslı sağlık profesyonelleri tarafından sunulan hemşirelik veya rehabilite edici bakım ve diğer hizmetlerin yanında kişisel destek çalışanları veya gönüllü kuruluşlar tarafından sağlanan kişisel bakım (kalkma, giyinme, yıkanma ve banyo yapma gibi görevlerde yardım), ev işleri, bahçe işleri, alışveriş ve diğer günlük işler, yemek hazırlama (sıcak yemekler veya dondurulmuş yemekler ve ihtiyaca bağlı olarak bunları ısıtmanın bazı yöntemleri) ve/veya geçici bakım gibi hizmetler sunulmaktadır. Evde bakım kavramının kapsamına giren hizmetler çoğunlukla keyfidir. Benzer şekilde, bağlama bağlı olarak evde bakım genellikle sağlık ve sosyal bakım sektörlerindeki uzun vadeli bakım hizmetleri, toplumdaki yaşlı bakımı hizmetleri vb. gibi daha geniş hizmetler altında nitelendirilmektedir. Bununla birlikte, tüm hizmetlerin hedefleri, evde veya toplumda

yaşarken daha fazla bağımsızlığı ve memnuniyeti ilerletmek için yaşam kalitesi ve işlevsel yeteneklerin sürdürülmesi ve geliştirilmesini sağlamaktır.[24]

İsveç'te yaşlı ve engelli kimselerin bakımı, merkezi hükümet düzeyinde, bölgesel düzeyde ve yerel düzeyde olmak üzere üç düzeyde yönetilmektedir. Merkezi hükümetin kontrol araçları; mevzuat, politika beyanları, devlet sübvansiyonları ve denetimden oluşmaktadır. Bölgesel düzeyde, ilçe meclisleri hastane bakımından ve temel sağlık hizmetlerinin büyük kısmından sorumludur. Yerel düzeyde belediyeler, bakıma muhtaç her yaştaki kimselere evde bakım ve yatılı bakım da dahil olmak üzere sosyal hizmetleri sağlamakla yasal olarak yükümlüdür. İsveç'te evde bakım, 1992'de bölgesel düzeyden belediye yerel düzeyine taşınan bakım evleri de dahil olmak üzere, yaşlı ve engelli kimselere yönelik çoğu bakım hizmeti gibi, Sosyal Hizmetler Yasası tarafından düzenlenmektedir. Yürürlük tarihi 1982 olan ve büyük ölçüde değişmeyen Sosyal Hizmetler Yasası, ayrıntılı düzenlemeler veya özel haklar olmadan, ihtiyaçların başka şekilde karşılanamaması durumunda genel bir yardım hakkı sağlayan hedef odaklı bir çerçeve kanundur. Herkes, yaşamının her aşamasında kamu hizmeti ve desteğinden yararlanma hakkına sahiptir ve yerel yönetimlerin bu ihtiyaçların karşılanmasını sağlamak gibi zorunlu bir sorumluluğu bulunmaktadır. Yardım, kaliteli olmalı ve 'makul bir yaşam düzeyi' sağlayacak şekilde verilmelidir. İhtiyaç değerlendirmesi süreci, yerel olarak seçilmiş politikacıların görevlendirdiği bir bakım yöneticisi tarafından yürütülmektedir.[25]

SONUÇ VE ÖNERİLER

Geleneksel bakım davranışları birçok ülkede değişirken, bakım sistemleri, uygulamaları ve organizasyonları üzerinde düşünmek, yerinde bir davranış olacaktır. Bir yanda azalan doğum oranları diğer yanda uzayan ömürler nedeniyle nüfus yapılarının bağımlı kanadından birisi olan yaşlı bağımlı nüfusun artma eğilimi, bu düşünme eyleminin oldukça somut bir gerekliliğidir. Öte yandan, değişen aile yapıları, kentsel alanlara göçün daha da hızlandırdığı kentleşme, yüksek bir hızla değişen sosyal değerlerin ortaya çıkardığı nesiller arası ilişkilerin zayıflaması, bakıma muhtaç kimselerin artan yalnızlığı gibi çokça sorun, yaşlı ve engelli kimselerin bakımına dair soru işaretlerini beraberinde getirmektedir.

Konunun başka bir boyutu da bakım ihtiyacı olan kimselere sunulacak bakım hizmetlerinin kapsamı ve niteliği ile ilgilidir. Bakım hizmetlerinin de toplumsal yapıdaki dönüşümlerden, toplumun değişen ihtiyaçlarından etkilenmemesi beklenemez. Sosyal politika uygulamalarının birçoğunda esas alınan proaktif politika prensiplerinin, bakım uygulamalarında da dikkate alınması kaçınılmaz bir müdahaledir. Evde bakım hizmetlerine dönük artan vurgunun nedenlerinden birisi de bu olgudur. Kurum bakımının yoğunluğu ve artan maliyetlerinin dışında, aktif, sağlıklı ve yerinde yaşlanma biçimleriyle de uyumlu bir bakım hizmeti türü olan evde bakımın önemi artmıştır. Evde bakım; tek başına hastalık odaklı ya da hastalık sonucu ortaya çıkan sorunların çözümü mercii olan kurum bakımını tamamlayıcı, mümkün olduğu ölçüde bakım sürecini yönetmek, özellikle akut hastalıkların tedavisi için sağlık kuruluşlarına olan ihtiyacı azaltmak ya da uzun yatış sürelerini nispeten engellemek, özellikle bakım ihtiyacı olan engelli ve yaşlı kimselerin ihtiyaçlarını mümkün mertebe yaşam alanlarında desteklemek için uygun bir yöntemdir.

Evde bakım hizmetlerinin organizasyonu, farklı ülkelerde farklı biçimlerde yapılmaktadır. Bazı ülkelerde kamunun ağırlık koyduğu göze çarparken, bazılarında özel sektörle paylaşımlı bir bakım hizmeti sunulduğu görülmektedir. Yine bazı ülkelerde merkezi yönetimin tekelinde olan hizmet sunumu, bazılarında yerel yönetimlere ya da belediyelere devredilmiştir. Bazı ülkelerde evde bakım, evde sağlık bakımı olarak algılanmakta ve bu

durum, hizmetlerin içeriğine de yansımaktadır. Bazı ülkelerde ise evde bakım hizmetleri, evde sağlık bakımı ve evde sosyal bakım olarak sınıflandırmaya tabii tutulmakta, evde bakım hizmetleri bu sınıflandırma çerçevesinde yerine getirilmektedir.

Türkiye'de evde bakım konusunda kamunun ağırlığı açık biçimde görülebilmektedir. Kamu, evde bakım konusunda sosyal yardım anlayışıyla adım attığı gibi, sosyal hizmet yaklaşımıyla da müdahalede bulunmaktadır. Evde sağlık bakımının organizasyonu, Sağlık Bakanlığı çatısı altında bir yönetmelik (Evde Bakım Hizmetleri Sunumu Hakkında Yönetmelik) ile tertiplenmiştir. Sağlık Uygulama Tebliği'ne göre resmi sağlık kurumlarına evde sağlık bakımı, evde bakım ve rehabilitasyon hizmeti sunabilme imkânı getirilmiştir. Belediyeler de ilgili tebliğe göre resmi sağlık kurumları arasında yer aldığından, bu kapsamda değerlendirilmektedir.

Evde sosyal bakım konusunda, bakıma ihtiyacı olan bireylere bakmakla yükümlü ailelerin, profesyonellerin ve belediyelerin rolü bulunmaktadır. Kamu, evde sosyal bakım konusunda bakıma ihtiyacı olanlara bakmakla yükümlü kimseleri belirli şartlar dahilinde maddi açıdan desteklemektedir. Yine kamu, belediyelere evde sağlık ve sosyal bakım konusunda yetki vermiştir. Pek çok sosyal politika uygulamasında olduğu gibi evde sosyal bakım konusunda da kamunun, ihtiyaç sahiplerine en yakın birimler olarak belediyeleri gördüğü anlaşılmaktadır. Belediyelerin evde bakım hizmetleri incelendiğinde, evde bakımın sağlık ve sosyal boyutlarıyla ilgili hizmetlerin sunulduğu; belediyelerin evde bakım hizmetlerinin, genel itibariyle evde bakım hizmetleri, evde sağlık hizmetleri ya da evde bakım ve sağlık hizmetleri adları altında sunulduğu görülmektedir. Bazı belediyelerde ise, yaşlı bakım hizmetleri, engelli bakım hizmetleri ya da yaşlı ve engelli bakım hizmetleri adları altında ilgili hizmetlerin sunulduğu görülmektedir.

Demografik eğilimlerin gösterdiği üzere giderek artan sayıda kimsenin evde bakım hizmetlerine ihtiyaç duyacağı kolayca öngörülebilmektedir. Bu eğilimlerin muhtemel sonuçlarını da kestirmek, politika yapıcıların dikkate alması gereken noktalardan birisidir. Evde bakım hizmetlerinin organizasyonu konusunda sorumluluğun ve müdahaleler konusunda sınırların net biçimde çizildiği bir yapı oluşturulmalıdır. Bu yapı oluşturulurken, sosyal devlet anlayışından taviz verilmeden, özellikle maddi olarak güçsüz kimselerin evde sağlık ve sosyal bakım ihtiyaçlarını giderecek bir yaklaşımla hareket edilmelidir. Özellikle kurumsal bakım maliyetlerinin artması nedeniyle toplumun dezavantajlı gruplarından yaşlı ve engelli kesimler, kendi hallerine terkedilmemelidir. Öte yandan yüksek kayıt dışılığın görüldüğü bakım sektöründe, kamu kurumlarının ve kamu tarafından denetlenen özel kurumların varlığı oldukça önemlidir. Bu denetim, evde bakım hizmetlerinin sunumunda verimliliğin artırılması için de gereklidir. Bu düşüncelerden yola çıkarak, evde bakım hizmetlerinde kapsamın genişliği, hizmetlerin çeşitliliği, müdahalelerin yerindeliği, yeni teknolojilerin kullanılması ve profesyonellerden yararlanılmasının daha önemli hale geldiğini ifade edebiliriz.

KAYNAKLAR

1. Kocabaş, F. ve Kol, E. (2020). "Almanya ve Türkiye'de Karşılaştırmalı Olarak Bakım Hizmetleri: Türkiye'de Bakım Sigortası Kurulmasına Yönelik Bir Öneri". Anadolu Üniversitesi Sosyal Bilimler Dergisi, 20 (4), 283-310.
2. Ergin, I. (2016). "Yaşlı Sağlığı ve Sosyal Politikalarda Kamusal Destek Ne Durumda? Türkiye ve Dünyada Mevcut Durum". Ege Tıp Dergisi, 55 (1), 12-18.
3. World Health Organization. (2002). "Community Home-Based Care In Resource-Limited Settings: A Framework For Action". Erişim adresi:https://www.who.int/chp/knowledge/publications/Chronic_conditions/en/ (Erişim tarihi: 23.11.2023).
4. Genet, N., Boerma, W. G., Kringos, D. S., Bouman, A., Francke, A. L., Fagerström, C., Melchiorre, M. G., Greco, C., and Devillé, W. (2011). "Home Care In Europe: A Systematic Literature Review". BMC Health Services Research, 11 (207).
5. Cabanas, M., Ondiviela, M. À., Bolibar, B., Morales, J. M., José Audera, F., Taltavull, J. M., and The EURHOMAP group. (2009). "EURHOMAP: Mapping Professional Home Care In Europe". International Journal of Integrated Care, 9 (Suppl), e20.
6. Aydın, M. ve Dişçigil, G. (2017). "Evde Bakım Hizmeti Alanlarda Sosyal İzolasyon", The Journal of Turkish Family Physician, 08 (4), 95-99.

7. Tarricone, R. and Tsouros, A. D., (2008). "The Solid Facts: Home Care In Europe". Copenhagen. World Health Organization Regional Office for Europe.
8. Yılmaz, M., Sametoglu, F., Akmeşe, G., Tak, A., Yağbasan, B., Gökçay, S., Sağlam, M., Doğanyılmaz, D. ve Erdem, S. (2010). "Sağlık Hizmetinin Alternatif Bir Sunum Şekli Olarak Evde Hasta Bakımı". İstanbul Tıp Dergisi, 11(3), 125 - 132.
9. MEB. (2016). "Hasta ve Yaşlı Hizmetleri: Evde Bakım Hizmetleri". Erişim adresi: https://www.megep.meb.gov.tr/mte_program_modul/moduller/Evde%20Bakım%20Hizmetleri.pdf. (Erişim tarihi: 21.11.2023).
10. Mascolo, M. D., Espinouse, M. and Hajri, Z. E. (2017). "Planning In Home Health Care Structures: A Literature Review". IFAC-Papers OnLine, 50, 4654-4659.
11. McBride, S. E., Beer, J. M., Mitzner, T. L. and Rogers, W. A. (2011). "Challenges for Home Health Care Providers: A Needs Assessment. Physical and Occupational Therapy in Geriatrics", 29 (1), 5–22.
12. Altındiş, E. ve Üner, E. (2023). "Yaşlı Bakım Modellerinin Karşılaştırılması". Geriatrik Bilimler Dergisi, 6 (1), 60-71.
13. Korkut, G. ve Dikmen, T. (2020). "Evde Yaşayan Yaşlı Bireylerin Yerinde Yaşlanmaya İlişkin Tutumlarının Sosyo-Demografik Değişkenler Bağlamında İncelenmesi". Iğdır Üniversitesi Sosyal Bilimler Dergisi, (22), 93-118.
14. Kemper, P. (1992). "The Use of Formal and Informal Home Care By The Disabled Elderly". Health Services Research, 27 (4), 421–451.
15. OECD. (2020). "Long-Term Care and Health Care Insurance In OECD and Other Countries", Erişim adresi: www.oecd.org/fin/insurance/Long-Term-Care-Health-Care-Insurance-in-OECD-and-Other-Countries.htm. (Erişim tarihi: 21.11.2023).
16. Aile ve Sosyal Hizmetler Bakanlığı. (2023). "Evde Bakım Yardımı Yönetmeliği Resmi Gazetede Yayımlandı". Erişim adresi: https://www.aile.gov.tr/haberler/evde-bakim-yardimi-yonetmeligi-resmi-gazetede-yayimlandi/#:~:text=Evde%20Bakım%20Yardımı%20uygulamasıyla%202023,569%20bin%20627%20kişi%20faydalanıyor. (Erişim tarihi: 25.11.2023).
17. Çakar, E. (2013). "Evde Bakım Ücretinden Kimler Hangi Şartlarda Yararlanabilir", Yaklaşım Dergisi, 244.
18. Özdamar, M. ve Çakar, E. (2015). "Muhtaç Yaşlılar ile Engellilere Aylık Bağlanması ve Bunların Bakımını Üstlenenlere Evde Bakım Ücreti Ödenmesinin Şartları". İş ve Hayat, 1 (2), 169-183.
19. Yuvalı, E. (2019). "2022 Sayılı 65 Yaşını Doldurmuş Muhtaç, Güçsüz ve Kimsesiz Türk Vatandaşlarına Aylık Bağlanması Hakkındaki Kanunun Değerlendirmesi". Türkiye Adalet Akademisi Dergisi, (37), 51-73.
20. Evde Bakım Hizmetleri Sunumu Hakkında Yönetmelik. (2005). Resmi Gazete 13/09/2005, 25935.
21. Sağlık Bakanlığınca Sunulan Evde Sağlık Hizmetlerinin Uygulama Usul ve Esasları Hakkında Yönerge. (2010). Erişim adresi: https://dosyamerkez.saglik.gov.tr/Eklenti/19227/0/saglik-bakanliginca-sunulan-evde-saglik-hizmetlerinin-usul-ve-esaslari-hakkinda-yonerge-01022010pdf.pdf (Erişim tarihi: 19.11.2023).
22. Tamer, M. G. (2017). "Yaşlı Hastalarına Bakım Veren Kadınların Deneyimleri Işığında Evde Bakım Hizmetinin Değerlendirilmesi". Hacettepe Üniversitesi Türkiyat Araştırmaları (HÜTAD), (26), 157-186.
23. Hekimler, A. (2015). "Federal Almanya'da Sosyal Bakım Sigortasının Temel Esasları – Türkiye İçin Gözlemler". Çalışma ve Toplum, 1 (44), 45-76.
24. Sykes, W. and Groom, C. (2011). "Older People's Experiences of Home Care In England". Equality and Human Rights Commission. Erişim adresi: https://www.equalityhumanrights.com/sites/default/files/research-report-79-older-peoples-experiences-of-home-care-in-england.pdf (Erişim tarihi: 19.11.2023).
25. Szebehely, M. and Trydegård, G. B. (2012). "Home Care for Older People In Sweden: A Universal Model In Transition". Health and Social Care in the Community, 20 (3), 300–309.
26. OECD. (2024). "Elderly Population (Indicator)". Erişim adresi: https://data.oecd.org/pop/elderly-population.htm. (Erişim tarihi: 29.01.2024).
27. TÜİK Haber Bülteni. (2023). "İstatistiklerle Yaşlılar, 2022". Erişim adresi: https://data.tuik.gov.tr/Bulten/Index?p=Istatistiklerle-Yaslilar-2022-49667 (Erişim tarihi: 19.11.2023).
28. The World Bank. (2024). "United Nations Population Division. World Population Prospects: 2022 Revision". Erişim adresi:https://data.worldbank.org/indicator/SP.POP.65UP.TO.ZS (Erişim tarihi: 29.01.2024).

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TEK EBEVEYNE SAHİP ÇOCUKLARDA PSİKOSOMATİK AĞRI VE PEDİATRİ HEMŞİRELİĞİ

PSYCHOSOMATIC PAIN AND PEDIATRIC NURSING IN SINGLE PARENT CHILDREN

Damla POLAT KÖSE[1], Hacer KOBYA BULUT[2]

ÖZ

Tek ebeveynli aile yapısı, herhangi bir nedene bağlı olarak yalnız kalan bir ebeveyn ve ebeveyne bağlı çocuk/çocuklardan oluşan aile yapısı olarak tanımlanmaktadır. Türkiye'de hane halkının %7,8'ini tek ebeveynli aile yapısına sahip aileler oluşturmaktadır. Oranı giderek artan tek ebeveyne sahip çocuklar güven duygusunun yitirilmesine bağlı güvensizlik, düşük benlik algısı, ihmal ve istismar, davranış bozuklukları gibi birçok risk ile karşı karşıya kalmaktadır. Çocuğun doğumundan itibaren keşfettiği ağladığında ebeveynin yanında olması ve ilgilenmesi sosyal öğrenme ile bilinçaltına atılmaktadır. Bu süreçte çocuk bir problem ile karşılaştığında ve baş edemediğinde ebeveyn desteğinin alınabilmesi hafızasına yönelik psikolojik problemleri bedene yansıtarak ebeveyn desteğini sağlamaya çalışmaktadır. Psikolojik problemlerin bedene yansıtıldığı ve görülme oranı yüksek olan semptom ise psikosomatik ağrı olarak karşımıza çıkmaktadır. Psikosomatik ağrı, genellikle anksiyete ile ortaya çıkan bir ağrı çeşididir. Yapılan çalışmalarda anksiyete seviyesi yüksek olan çocuklarda psikosomatik ağrı görülme olasılığının arttığı belirtilmektedir. Çocuğun üzüntü, ebeveyne duyulan öfke, güvensizliğe ve belirsizliğe bağlı anksiyete gibi ifade edemeyeceği kadar yoğun bir duygu yaşaması psikosomatik ağrıların görülmesine neden olmaktadır. Pediatri hemşireleri, tek ebeveyne sahip çocukların karşı karşıya kaldığı risklerin belirlenmesi ve önlenmesinde öncül görevi üstlenmektedir. Bu doğrultuda hemşire; risklerin değerlendirilmesi, ağrı kontrolünde farmakolojik/ nonfarmakolojik yöntemlerin uygulanması büyüme ve gelişme takibi, terapötik iletişim ve oyun, multidisipliner yaklaşım ile ekonomik, hukuksal ve toplumsal müdahalelerin yürütülmesinde aktif rol almaktadır. Bu derlemenin amacı tek ebeveyne sahip çocuk ve psikosomatik ağrı ilişkisini inceleyerek çocuk hemşirelerinin rollerini açıklamaktır.

Anahtar Kelimeler: Tek ebeveyn, çocuk, psikosomatik, ağrı, pediatri hemşireliği

ABSTRACT

A single-parent family structure is defined as consisting of a parent who is alone for any reason and a child/children dependent on the parent. In Turkey, 7.8% of households are composed of a single parent family structure. Children with single parent families face risks such as insecurity due to loss of trust, low self-perception, abuse, and behavioral disorders. The fact that the parent is with the child, which the child has discovered since birth, is laid in the subconscious through social learning. When the child encounters a problem and cannot cope with it, he/she tries to provide parental support by reflecting psychological problems to the body. The symptom that psychological problems are reflected on the body and has a high incidence rate is psychosomatic pain. Psychosomatic pain is a type of pain that occurs with anxiety. Studies have shown that children with high anxiety levels are more likely to have psychosomatic pain. Psychosomatic pain occurs when the child with single parent experiences intense emotions that they cannot express. Pediatric nurses assume the primary role in identifying and preventing the risks faced by children with a single parent. The nurse takes an active role in the assessment of risks, the application of pharmacological / nonpharmacological methods in pain control, growth and development monitoring, therapeutic communication and play, multidisciplinary approach and economic, legal and social interventions. The aim of this review is to explain the roles of pediatric nurses by examining the relationship between children with a single parent and psychosomatic pain.

Keywords: Single parent, child, psychosomatic, pain, pediatric nursing

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[1] Öğr. Gör. Damla POLAT KÖSE, Çocuk Sağlığı ve Hastalıkları Hemşireliği, Avrasya Üniversitesi Hemşirelik Bölümü, damlapolat94@gmail.com.tr, ORCID: 0000-0002-3192-1166
[2] Doç. Dr. Hacer KOBYA BULUT, Çocuk Sağlığı ve Hastalıkları Hemşireliği, Karadeniz Teknik Üniversitesi Hemşirelik Bölümü, hkbulut@hotmail.com, ORCID: 0000-0003-4910-6378

İletişim / Corresponding Author: Damla POLAT KÖSE
e-posta/e-mail: damlapolat94@gmail.com

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GİRİŞ

Ailenin, çocuk sağlığının geliştirilmesi ve sürdürülmesinde fizyolojik, psikolojik, sosyolojik ve ekonomik olmak üzere önemli rolleri bulunmaktadır. Ölüm, boşanma, göç gibi ekonomik, sosyal veya psikolojik faktörlere bağlı olarak ortaya çıkabilen aile yapılarından birisi tek ebeveynli aile yapısıdır[1]. Tek ebeveynli aile yapısı, herhangi bir nedene bağlı olarak yalnız kalan bir ebeveyn ve ebeveyne bağlı çocuk/çocuklardan oluşan aile yapısı olarak tanımlanmaktadır[1]. Bir ebeveynin ölümü, uzun süren yokluğu, boşanma veya kişisel tercihler tek ebeveynli aile yapısının oluşmasına neden olmaktadır[2]. Yapılan çalışmalar tek ebeveynli aile yapısı oranının giderek arttığını göstermektedir[2,3,4]. Türkiye'de hane halkının %7,8'ini ise tek ebeveynli aile yapısına sahip aileler oluşturmaktadır[2].

Oranı giderek artan tek ebeveyne sahip çocuklar, birçok risk ile karşı karşıya kalmaktadırlar. Bu risklerin başında ekonomik sorunlar gelmektedir. İş gücünün kaybı, gerek anne gerekse baba ile kalan bir çocuğu olumsuz yönde etkilemektedir[1]. Ekonomik problemlere ek olarak aile üyeleri arasında net rollerin ve sınırların belirlenememesi, sosyal izolasyon, kimlik karmaşası gibi sosyal ve psikolojik risklerle de karşılaşılmaktadır[5]. Bir ebeveynin psikososyal desteğinin alınamaması ve çocuk için rol model eksikliğinin bulunması çocuğun psikososyal gelişimini olumsuz yönde etkilemektedir[6]. Ebeveyn cinsiyeti çocuğun karşılaştığı risklerin ve şiddetinin belirlenmesinde de belirleyici olmaktadır.

Cinsiyete göre tek ebeveyn olmanın riskleri ile ilgili yapılan birçok çalışma bulunmaktadır[5,7]. Kadınların tek ebeveyn olduğu ailelerde ekonomik problemler, zaman yetersizliğine bağlı çocuğun bakımını sürdürmede yetersizlik, sosyal izolasyon, stigma, artan roller ile ilgili riskler yer almaktadır[2,5]. Annenin tek ebeveyn olduğu ailelerde çocuklar; güven duygusunun yitirilmesine bağlı güvensizlik, düşük benlik algısı, ihmal/istismar riski ve davranış bozuklukları gibi problemler ile karşı karşıya kalmaktadırlar[6,8]. Babaların tek ebeveyn olduğu ailelerde ise ekonomik durum daha iyi olmasına rağmen kariyer ile ilgili sınırlılıklar, yorgunluk, çocuk bakımı ile ilgili yaşanan problemler ve sosyal izolasyon gibi riskler görülmektedir[5]. Babanın tek ebeveyn olduğu ailede çocuk anne bağlanmasından yoksun kalmakta ve güvensizlik yaşamaktadır[6] Tüm bu riskler ile baş edemeyen çocuklarda anksiyete bedene yansıtılabilir ve psikosomatik semptomlar görülebilmektedir. Bu doğrultuda çalışmanın amacı tek ebeveyne sahip çocuk ve psikosomatik ağrı ilişkisini inceleyerek pediatri hemşirelerinin rollerini açıklamaktır.

Çocuklarda Tek Ebeveyne Sahip Olmanın Yaş Dönemi Özelliklerine Göre Etkisi

Çocuğun tek ebeveynli aile yapısının etkileri ve karşı karşıya kaldığı riskler gelişim dönemlerine göre de farklılık göstermektedir.

Bebeklik Dönemi (0-1 Yaş)

Bebeklik döneminde çocuk hızlı bir fiziksel gelişim geçirmektedir[9]. Tek ebeveyne sahip bir aile yapısında dünyaya gelen çocuklarda düşük sosyoekonomik durum ve anne yokluğu ile ilişkilendirilebilecek beslenme yetersizliği görülebilmektedir. Yeterli beslenmenin sağlanmadığı durumlarda çocuğun tüm yaşamını etkileyen büyüme ve gelişme gerilikleri ortaya çıkmaktadır[10,11].

Büyüme ve gelişmenin yanı sıra bu dönem çocuğun ebeveyn ihtiyacının en yoğun olduğu ve ebeveyn-bebek bağlanmasının gerçekleştiği kritik bir dönemdir[9]. Bu dönemde çocuk çevresini keşfetmeye çalışır ve nesne devamlılığı sağlanmadığından ebeveyni görmediğinde ayrılık anksiyetesi yaşar[12]. Çocuğun yaşadığı ayrılık anksiyetesi huzursuzluk, güven duygusunun kaybı ve ilerleyen dönemlerde psikolojik problemler gibi tüm yaşamını etkileyen sonuçlara neden olmaktadır. Ayrıca annenin tek ebeveyn olduğu ailelerde baba-bebek bağlanması

gerçekleşmediğinden çocuğun entelektüel gelişimi de olumsuz yönde etkilenmektedir[13].

Oyun Dönemi (1-3 Yaş)

Oyun dönemi; çocuğun büyüme ve gelişmesinin devam ettiği ve özerkliğini tanımaya başladığı dönem olarak karşımıza çıkmaktadır[9]. Bebeklik döneminde beslenme yetersizliğine bağlı olarak gelişen büyüme gelişme geriliklerinin bu dönemi etkilemesinin yanı sıra tek ebeveynli aile yapısı ile oyun döneminde karşılaşan çocuklar için de aynı durum söz konusu olabilmektedir[14].

Fiziksel gelişimin yanı sıra çocuğun otonomi ile bireyselleşmesi bu dönemin en önemli özelliklerindendir. Otoriter aile tutumunu benimseyen tek ebeveyn ile yaşayan çocuklarda güvensizlik, düşük benlik saygısı, içe kapanma gibi problemler görülebilmektedir. Yapılan çalışmalarda çocuğun duyduğu kayıp ve öfkeye bağlı olarak davranış bozuklukları ve saldırganlığın görülme olasılığının da yüksek olduğu tespit edilmiştir[7,14,15].

Okul Öncesi Dönem (3-6 Yaş)

Tek ebeveyn ile yaşamanın getirmiş olduğu ekonomik problemler çocuğun yaşadığı çevresel koşulları etkilemektedir. Olumsuz çevre koşulları çocuğun kronik hastalığa yatkın olmasına ve enfeksiyonlara açık hale gelmesine neden olmaktadır[4]. Yine ekonomik problemlere ve çocuğun ihtiyaçlarının yeterli düzeyde karşılanamamasına bağlı olarak büyüme gelişme problemleri, günlük yaşam aktivitelerinin sürdürülememesi, bireysel hijyen yetersizliğine bağlı hastalıklar bu dönemde karşımıza çıkan sorunlar arasındadır[14,15].

Okul öncesi dönemde çocuk çevreyi keşfetmeye başlamaktadır. Çocuğun bu özelliği ve çevreye merakı ev kazaları riski ile karşı karşıya kalmasına neden olmaktadır. Gelişim sürecinin yanı sıra bir ebeveynin yokluğu veya ebeveynin çalışması ev kazaları riskini arttırmaktadır[9]. Fizyolojik ihtiyaçların karşılanamaması ve çocuğa yeterli uyaran verilmemesi nedeniyle düşme ve yaralanma ile sonuçlanan ev kazaları da görülebilmektedir[14].

Çevrenin tanınmasıyla birlikte çocuk kişilerarası ilişkileri de deneyimlemekte ve sosyalleşmektedir. Bu dönemde çocuk tek başına oyun evresinden çıkmakta, akranları ile etkileşerek birlikte oyun evresine geçiş yapmaktadır. Güven duygusunun olumsuz etkilenmesi ile tek ebeveyne sahip çocuklarda iletişim problemleri, içe kapanma ve sosyal izolasyon gibi problemler görülebilmektedir. Bu dönemde mevcut sorunlara, ebeveyne duyulan öfke nedeniyle davranışsal problemler de eşlik edebilmektedir [9,15].

Okul Dönemi (6-12 Yaş)

Ekonomik problemler tek ebeveyne sahip çocukların bu dönemde karşı karşıya kaldığı ve birçok biyososyolojik süreci etkileyen bir problem olarak karşımıza çıkmaktadır. Aynı zamanda okul masraflarının diğer masraflara eklenmesi yaşanan ekonomik problemin artmasına neden olmaktadır[5].

Okul sürecinde baba ile bağlanma gerçekleştiremeyen çocuklarda entelektüel düzey olumsuz yönde etkilenmektedir. Aile yapısındaki değişim, yeterli akademik desteğin sağlanamaması, çocuğun ankisyetesinin yüksek olması ve baş etme yetersizliği okul başarısının düşmesine neden olmaktadır. Okul başarısızlığına ek olarak çocuğun çevresindeki aile yapısını gözlemlemesi, farklı aile yapısına sahip olduğunu keşfetmesi içe kapanma ve sosyal izolasyona neden olabilmektedir. Tüm bu süreç çocuğun bilişsel, sosyal ve kişisel gelişimi olumsuz yönde etkilemektedir [5,15].

Tek ebeveyn ile yaşamanın bu dönemdeki çocuğun fizyolojik etkileri incelendiğinde uyku bozuklukları dikkat çekmektedir. Okula başlama ile birlikte ankisyete yaşayan, mevcut durum ile baş edemeyen çocuklarda uyku bozukluklarının daha sık görüldüğü belirlenmiştir. Uyku bozukluklarına neden olan bir diğer faktörün ise tek ebeveynin ayrılması ile ilişkili güvensizlik duygusu olduğu vurgulanmaktadır[16].

Adölesan Dönem (12-18 Yaş)

Adölesan dönemde çocuk, ‘’ben kimim?’’ sorusuna yanıt aramaktadır. Kimlik gelişimi çocukluk döneminden başlayan, ebeveynin rol model alınmasıyla belirlenen bir süreç olarak tanımlanmaktadır. Bu dönemde meydana gelen bir ebeveynin kaybı dönem özelliklerinin getirdiği problemlerin yanında ebeveyn yokluğuna dair duyulan öfke ve otorite kaybı ile riskli davranışlara ve suça eğilim, alkol-madde kullanımı, gibi problemleri de beraberinde getirmektedir[17].

Adölesan dönemde tek ebeveynli aile yapısı ile karşı karşıya kalan çocukta baş etme yetersizliğine bağlı olumsuz benlik algısı, sosyal izolasyon, psikiyatrik problemler, okul başarısında düşüş ve ekonomik problemlerle de ilişkilendirilen suça yatkınlık gibi sorunlar görülmektedir[3,18]. Dönem özelliğinde kendini bulma çabası, rol model eksikliği nedeni ile kimlik karmaşası ve kişilik bozuklukları ile kendini gösterebilmektedir. Ayrıca yapılan çalışmalar aile içinde çatışma olan ve aile süreci etkilenmiş adölesan dönemdeki çocuklarda ihmal ve istismar, davranış bozuklukları gibi problemlerin görülme olasılığının daha yüksek olduğunu ortaya koymuştur[19].

Psikosomatik Ağrı ve Çocuk

Ağrı, sübjektif bir veri olup Uluslararası Ağrı Araştırmaları Derneği (IASP) tarafından vücudun herhangi bir yerinden kaynaklanan organik bir nedene bağlı olan ya da olmayan bireyin geçmişteki deneyimleri ile ilgili, emosyonel hoş olmayan bir duygu olarak tanımlanmaktadır[20]. Ağrı fizyolojik yönünün yanı sıra psikolojik durumları da içinde barındıran bir kavramdır[21]. Ağrının psikolojik yönü psikosomatik ağrı kavramını karşımıza çıkarmaktadır. Psikosomatik ağrı, fizyolojik bir doku hasarı olmaksızın psikolojik faktörlere bağlı olarak gelişen ve fizyolojik olarak algılanan ağrı olarak tanımlanmaktadır. Bu ağrı türünde altta yatan herhangi bir fizyolojik doku hasarı yoktur ancak psikolojik olarak duyumsanan sıkıntı ağrı olarak kendini göstermektedir[22].

Ağrının psikolojik yönü öğrenme kuramı ile de ilişkilendirilmektedir[23]. Çocuğun 1-3 yaş döneminden itibaren keşfettiği ağladığında ebeveynin yanında olması ve ilgilenmesi sosyal öğrenme ile bilinçaltına atılmaktadır. Bu süreçte çocuk baş edemediği bir problem ile karşılaştığında ebeveyn desteğinin alınabilmesi hafızasına yönelik psikolojik problemleri bedene yansıtarak ebeveyn desteğini sağlamaya çalışmaktadır. Psikolojik problemlerin bedene yansıtılması ise psikosomatik ağrı olarak karşımıza çıkmaktadır[9].

Tek Ebeveyne Sahip Çocuk ve Psikosomatik Ağrı İlişkisi

Özellikle bir ebeveynin yokluğu ile baş etmeye çalışan çocuklar kayıp süreci yaşamakta ve depresif belirtiler gösterebilmektedir. Çocukların karşılaştıkları problemler anksiyete seviyelerinin artmasına neden olmaktadır. Psikosomatik ağrı, genellikle anksiyete ile ortaya çıkan bir ağrı çeşididir. Yapılan çalışmalarda anksiyete seviyesi yüksek olan çocuklarda psikosomatik ağrı görülme olasılığının arttığı tespit edilmiştir[22].

Yüksek seviyedeki anksiyete ile baş edemeyen organizma yaşadığı stresi bedene yansıtarak durum ile baş etmeye çalışır. Bu süreçte baş ağrısı, kas ağrısı ve karın ağrısı gibi psikolojik faktörlere bağlı olarak da ortaya çıkabilen ağrılar görülmektedir[22,25].

Çocuğun üzüntü, ebeveyne duyulan öfke, güvensizliğe ve belirsizliğe bağlı anksiyete gibi ifade edemeyeceği kadar yoğun bir duygu yaşaması psikosomatik ağrıların görülmesine neden olmaktadır[23]. Ebeveynden ayrılma ve yeni duruma uyum sağlamada yaşanan güçlükler ile baş edemeyen çocuklarda baş ağrısı, karın ağrısı, göğüs ağrısı gibi psikosomatik ağrılar görülebilmektedir[22].

Tek Ebeveyne Sahip Çocukta Görülen Psikosomatik Ağrı ve Pediatri Hemşiresinin Rolleri

Pediatri hemşireleri çocuk sağlığının geliştirilmesi ve korunmasında aktif rol alan sağlık personelleridir. Tek ebeveyne sahip çocukların büyüme ve gelişmesi ile ilgili

birçok risk bulunmaktadır. Bu risklerin tümü çocukta psikosomatik ağrının görülmesinde etkili olabilmektedir. Bu doğrultuda hemşireler çocuğun karşı karşıya kaldığı risklerin belirlenmesi ve önlenmesinde öncül görevi üstlenmektedir[5].

Hemşirelik müdahalelerin planlanması ve yürütülmesinde ilk adım iyi bir öykü almaktır. Ailenin yaşadığı süreç, sürecin çocuğa ve ebeveyne etkisi, karşılaşılan problemler ayrıntılı bir şekilde ele alınmalıdır[24]. Öykünün ayrıntılı bir şekilde alınması hemşirelik müdahalelerin iyi bir şekilde planlanması ve yürütülmesinde büyük önem taşımaktadır. Bu nedenle ağrı şikâyeti ile değerlendirilen çocuğun öncelikle fizyolojik olmak üzere psikolojik ve sosyal yönden de ayrıntılı değerlendirilmesi gerekmektedir[23]. Psikosomatik ağrının varlığı tespit edildiğinde aile üyeleri ile birlikte süreç birçok yönü ile ele alınmaktadır. Değerlendirme sonucunda tek ebeveynin ve çocuğun yaşadığı problemler ayrıntılı bir şekilde tanımlanarak müdahaleler planlanmakta ve bu müdahaleler çocuk ve aileyi bütüncül olarak değerlendirilerek fizyolojik ve psikososyal boyutuyla ele alınmaktadır[26].

Çocuk ve ailesinden öykü alındıktan sonra pediatri hemşireleri ağrının yeri, şiddeti, zamanı, ağrıyı arttıran ve azaltan faktörleri değerlendirmelidir. Değerlendirmeler doğrultusunda ağrı kontrolü için çocuğa uygun olan farmakolojik ve nonfarmakolojik yöntemler ile müdahale planlanmalıdır. Ağrının fizyolojik olarak duyumsanması nedeniyle öncelikle farmakolojik yöntemler basamak sistemine uyularak uygulanmalıdır. Farmakolojik olarak uygulanan ilaçlara ek olarak masaj, sıcak/soğuk uygulama, terapötik oyun, gevşeme egzersizleri, müzik gibi nonfarmakolojik yöntemler de uygulanmalıdır[27]. Ağrı kontrolünün yanı sıra hemşire tek ebeveyne sahip çocuğun karşılaştığı riskleri en aza indirme müdahalelerini de planlamaktadır.

Tek ebeveynli aile yapısında karşılaşılan risklerin başında ekonomik problemler gelmektedir. Hemşire çocuğun yaşadığı aile üyesinin, yaşanılan yerin ve ekonomik durumun değerlendirmesini yapmalıdır. Belirlenen ekonomik problemlerin çözümü için multidisipliner yaklaşım ile ailenin ekonomik destek alması sağlamalıdır[5]. Özellikle kadının tek ebeveyn olduğu ailelerde yeterli ekonomik desteğin sağlanamaması çocuk sağlığını büyük ölçüde etkilemektedir. Bu süreçte hukuksal danışmanlığın sağlanması ve ailenin gerekli yerlere yönlendirilmesi gerekmektedir. Hukuksal danışmanlığın yanı sıra annenin istihdam edilebileceği, yetenekleri doğrultusunda daha uygun işlerde çalışabileceği yerlere yönlendirilmesi ekonomik problemlerin azaltılmasında veya önlenmesinde etkili olmaktadır[17].

Her iki ebeveynin de maruz kaldığı bir diğer önemli sorun stigmadır. Ataerkil aile yapısının benimsenmesi ve tek ebeveynli ailelere toplumsal bakış açısı bu aile yapısına sahip ebeveynlerin ve çocukların stigma ile karşı karşıya kalmasına neden olmaktadır[15]. Özellikle boşanma veya kişisel tercihler nedeni ile ortaya çıkan tek ebeveynli aileler stigma açısından büyük risk altında olmaktadırlar. Pediatri hemşireleri bu probleme yönelik toplumun bilinçlendirilmesinde eğitim rolü ile gerekli müdahaleleri planlamalıdır. Bu süreçte tek ebeveynli aile yapısı, aile üyelerine etkileri ve çocuk sağlığı ile ilgili toplum bilinçlendirme çalışmalarını yürütülmesinde rol almalıdırlar[9].

Çocuk sağlığının geliştirilmesi ve sürdürülmesi tek ebeveyn yapısındaki ailede yaşayan çocukta oldukça zor olabilmektedir. Rol model kaybının yaşanmaması için ebeveyn ilişkilerinin desteklenmesi, çocuğun süreç ile ilgili yaşadığı duygu ve düşüncelerini ifade etmesi için terapötik ortam oluşturularak iletişim kurulmalıdır. Bu süreçte aile üyelerine psikolojik danışmanlık sağlanmalı ve gerekli desteğin alınması için aile terapileri gibi aile sürecini destekleyen programlara yönlendirilmesi sağlanmalıdır[17].Aile terapileri ile tüm aile sürecinin desteklenmesi psikosomatik ağrı kontrolünde kullanılan psikolojik müdahaleler arasında yer almaktadır[26].

Çocuk sağlığının korunması ve sürdürülmesinde atravmatik bakım yaklaşımı benimsenmelidir. Atravmatik bakım; çocuk ve ailenin psikolojik ve fiziksel stresini azaltan girişimleri kullanarak terapötik bakım vermek olarak tanımlanmaktadır. Atravmatik bakımda öncelik çocuğun ve ailenin yaşadığı anksiyeteyi ve sürece bağlı olarak gelişen ağrıyı önleyerek sağlığın korunmasını ve geliştirilmesini sağlamaktır[28]. Tek ebeveyne sahip çocuklarda görülen psikosomatik ağrının kontrolü ve yaşam kalitesinin artırılması atravmatik bakım ilkeleri ile mümkün olmaktadır. Bu süreçte; ebeveyn-çocuk iletişiminin desteklenmesi, ebeveynin güçlendirilmesi, stresörlerin belirlenmesi, stresle etkili baş etme yöntemlerinin uygulanması ve aile üyelerinin baş etme becerilerinin desteklenmesi ve psikosomatik ağrı kontörlünün sağlanması yer almaktadır[27].

Pediatri hemşireleri çocuk sağlığının korunması ve geliştirilmesinde probleme yönelik politika oluşturma görevini de yürütmektedirler[17]. Bu doğrultuda çocuğun psikososyal yönden desteklenmesi, bebeklik ve erken çocukluk döneminde bakımının yürütülmesi, okul çağı ve sonrası dönem için okul başarısının desteklenmesi gibi çok yönlü değerlendirmenin yapılarak gerekli görülen ve risklerin azaltılmasını sağlayacak politikaların oluşturulması sürecine katılmalıdırlar.

SONUÇ VE ÖNERİLER

Literatürde tek ebeveyne sahip çocuklarda anksiyeteye bağlı olarak gelişebilecek birçok risk faktörünü içeren çalışma olmasına rağmen psikosomatik ağrıların incelendiği çalışmaların sınırlı olduğu dikkat çekmektedir. Bu doğrultuda mevcut durumun ortaya konulması için tek ebeveyn ve psikosomatik ağrı ilişkisini inceleyen çalışmaların yürütülmesi ve çalışma sonuçları ile gerekli müdahalelerin planlanması önerilmektedir.

KAYNAKLAR

1. Aydıner Boylu, A. (2014). ''Tek Ebeveynli Ailelerde Finansal Sıkıntı ve Fonksiyonlar Arasındaki İlişkinin İncelenmesi''. Hacettepe Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, 32 (1), 55-72. https://doi.org/10.17065/huiibf.34906
2. Atila Demir, S. ve Genç Çelebi, Ş. (2017). ''Tek Ebeveynli Ailelerin Sorunları: Nitel Bir Araştırma''. Yalova Sosyal Bilimler Dergisi, 8 (13), 111-128. https://doi.org/10.17828/yalovasosbil.333891
3. Sarıhan, Upreti, B. and Sharma, S. (2021). ''Self-Esteem of Adolescents Residing in Orphanages, Single Parent Families and İntact Families: Gender Differentials''. Indian Journal of Positive Psychology, 12(2), 118-121.
4. Kroese, J., Bernasco, W., Liefbroer, AC. and Rouwendal, J. (2020). ''Growing Up İn Single-Parent Families and The Criminal İnvolvement of Adolescents: A Systematic Review''. Psychology, Crıme & Law, 27(1),61–75. https://doi.org/10.1080/1068316X.2020.1774589
5. Aydıner Boylu, A. ve Öztop, H. (2013). ''Tek Ebeveynli Aileler: Sorunlar ve Çözüm Önerileri''. Sosyoekonomi, 2013(1), 207-220.
6. Şentürk, Ü. (2008). ''Aile Kurumuna Yönelik Güncel Riskler''. Aile ve Toplum Eğitim-Kültür ve Araştırma Dergisi, 10 (4), 7-31.
7. Baker, E.R., Jensen, C.J. and Tisak, M.S. (2017). ''A Closer Examination of Aggressive Subtypes ın Early Childhood: Contributions Of Executive Function and Single-Parent Status''. Early Chıld Development and Care, 189 (5), 733–746. https://doi.org/10.1080/03004430.2017.1342079
8. Mondal, N., Biswal, N. and Narayanan, P. (2016). ''Battered Baby: A Case Report''. Journal Of Comprehensıve Pedıatrıcs, 7 (3), 1-4. https://doi.org/10.17795/compreped-34705
9. Çavuşoğlu, H. (Ed.). (2018). ''Pediatri Hemşireliği Akıl Notları''. Güneş Tıp Kitapevleri, Ankara, 2-16.
10. Lee, E.J., Murry, VM., Brody, G. and Parker, V. (2002). ''Maternal Resources, Parenting, and Dietary Patterns Among Rural African American Children in Single-Parent Families''. Public Health Nursing, 19 (2), 104-111. https://doi.org/10.1046/j.1525-1446.2002.19205.x
11. Guttmann, A. and Dick, P. (2004). ''Infant Hospitalization and Maternal Depression, Poverty And Single Parenthood – A Population-Based Study''. Child: Care, Health & Development, 30, 67–75. https://doi.org/10.1111/j.1365-2214.2004.00390.x
12. Varcarolis E.M. (1998). ''Foundations of Psychiatric Mental Health Nursing: Third Education''.. W B Saunders Co, New York.
13. Soysal, A.Ş., Bodur, Ş. İşeri, E. ve Şenol, S. (2005). ''Bebeklik Dönemindeki Bağlanma Sürecine Genel Bir Bakış''. Klinik Psikiyatri, 2005 (8), 88-9.

14. Lut, I., Woodman, J., Armitage, A., Ingram, E., Harron, K. and Hardelid, P. (2021). ''Health Outcomes, Healthcare Use and Development in Children Born into Or Growing Up in Single-Parent Households: A Systematic Review''. Study Protocol. BMJ open, 11(2), 1-5. https://doi.org/10.1136/bmjopen-2020-043361

15. Deveoğlu, M. (2022). ''Tek Ebeveynli Ailelerin Çocuklarının Yaşadığı Sorunlar''. Socıal Mentalıty And Researcher Thınkers Journal (Smart Journal), 7(47), 1635-1640. : http://dx.doi.org/10.31576/smryj.960

16. Troxel, M.W., Lee, L., Hall, M. And Matthews, K.A. (2014). ''Single-Parent Family Structure and Sleep Problems in Black and White Adolescents''. Sleep Medicine, 15 (2014), 255–261. https://doi.org/10.1016/j.sleep.2013.10.012

17. Feyzioğlu, S. ve Kuşçuoğlu, C. (2011). ''Tek Ebeveynli Aileler''. Aile ve Toplum Eğitim-Kültür ve Araştırma Dergisi, 7 (26), 97-110.

18. Ulusoy, D., Özcan Demir, N. ve Görgün Baran, A. (2005). ''Parçalanmış Aile ve Gençlerde Sapmış Davranışlar: Lise Son Sınıf Gençliği Örneği''. Hacettepe Üniversitesi Edebiyat Fakültesi Dergisi, 22 (2), 61-66.

19. Tran, N. K., Van Berkel, S. R., van IJzendoorn, M. H., and Alink, L.R. (2021). ''Child and Family Factors Associated With Child Maltreatment in Vietnam''. Journal of Interpersonal Violence, 36(5-6). https://doi.org/10.1177/0886260518767914

20. E., Kadıoğlu, E., Artıran İğde, F. (2012). ''Kanser Ağrısı, Tedavi Prensipleri ve Dünya Sağlık Örgütü Ağrı Basamak Tedavisi''. Model Nebicus, 8 (1), 5-15.

21. Okyay, R.D. ve Ayoğlu, H. (2018). ''Çocuklarda Postoperatif Ağrı Yönetimi''. Pediatric Practice And Research, 6(2), 16-25. https://doi.org/10.21765/pprjournal.414257

22. Menkü, B.E. ve Coşar, B. (2021). ''Psikosomatik Bozukluklar''. Coşar B, editör. Somatik Belirti ve İlişkili Bozukluklar. 1. Baskı. Ankara: Türkiye Klinikleri, 32-36.

23. Tütüncü, R. ve Günay, H. (2011). ''Kronik Ağrı, Psikolojik Etmenler ve Depresyon''. Dicle Tıp Dergisi, 38 (2), 257-262. https://doi.org/10.5798/diclemedj.0921.2011.02.0028

24. Yılmaz, G. ve Küçük Alemdar, D. (2019). ''Çocuk Acil Servise Ağrı Şikayetiyle Başvuran Hastaların Geriye Dönük İncelenmesi''. Çocuk Acil ve Yoğun Bakım Dergisi, 2019;6, 79-84. https://doi.org/10.4274/cayd.galenos.2019.04127

25. Köhler, M., Emmelın, M. and Rosvall, M. (2017). ''Parental Health And Psychosomatic Symptoms İn Preschool Children: A Cross-Sectional Study İn Scania, Sweden''. Scandinavian Journal of Public Health, 45, 846–853. https://doi.org/10.1177/1403494817705561

26. Blount, R.L., Piira, T., Cohen, L.L. and Cheng, P.S. (2006). ''Pediatric Procedural Pain''. Behavıor Modification, 30 (1), 24-49. https://doi.org/10.1177/0145445505282438

27. Özveren, H. (2011). ''Ağrı Kontrolünde Farmakolojik Olmayan Yöntemler''. Hacettepe Üniversitesi Hemşirelik Fakültesi Dergisi, 18(1), 83-92.

28. Çalışır, H. ve Karataş, P. (2019). ''Pediatri Hemşireliğinde Atravmatik Bakım Yaklaşımı: Ağrı, Stres ve Anksiyeteyi Azaltmada Farmakolojik Olmayan Uygulamalar''. Koç Üniversitesi Hemşirelikte Eğitim ve Araştırma Dergisi, 16 (3), 234-245.

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Kanser Hastalarına Bakım Verenleri Güçlendirme: Bakım Veren Eğitimi ve Danışmanlığı

Empowering Caregivers of Cancer Patients: Caregiver Education and Counseling

Baise BİCAV[1], Sevinç KUTLUTÜRKAN[2]

ÖZ

Kanser, hastalık ve tedavi sürecinde hastaları ve hasta bireyin bakım sorumluluğunu yürüten bakım verenleri pek çok yönden etkilemektedir. Bakım verenleri psikolojik, fiziksel, sosyal, ekonomik boyutlarıyla etkilemektedir. Bakım verenlerin yaşadıkları güçlüklerle baş etmede eğitim ve danışmanlığa gereksinimleri ortaya çıkmaktadır. Bakım verenler için planlanan eğitimler, bakım verenin fiziksel, sosyal ve psikolojik açıdan rahatlamasını, öz yeterliliğini arttırmasını ve yaşam kalitesini iyileştirici yönde olmalıdır. Bu derlemenin amacı, kanser hastalarına bakım verenlerin ve hastaların desteklenmesi için kullanımı giderek artan video destekli eğitim, web tabanlı eğitim, telefon danışmanlığı gibi yöntemlere ilişkin güncel bilgilerin sunulması ile eğitim programlarına farkındalığın oluşması ve kullanımının yaygınlaştırılmasıdır.

Anahtar Kelimeler: Bakım Veren, Eğitim, Hemşirelik, Kanser

ABSTRACT

Cancer affects patients and caregivers who are responsible for the care of the sick individual in many ways during the disease and treatment process. It affects caregivers with psychological, physical, social and economic dimensions. In order to cope with the difficulties experienced by caregivers, training and counselling are needed. The trainings planned for caregivers should improve the physical, social and psychological relaxation of the caregiver, increase self-efficacy and improve the quality of life. The purpose of this review is to raise awareness and spread the use of education programs by presenting updated information on methods such as video-assisted education, web-based education, telephone counseling, which are increasingly used to support cancer patients and caregivers.

Keywords: Caregiver, Cancer, Education, Nursing

[1] Öğr.Gör, Baise BİCAV, Hemşirelik, Yüksek İhtisas Üniversitesi, Tıbbi Hizmetler ve Teknikler, baisebicav@gmail.com, ORCID: 0000-0003-0648-9911
[2] Prof.Dr, Sevinç KUTLUTÜRKAN, Hemşirelik, Ankara Üniversitesi, İç Hastalıkları Hemşireliği, skutluturkan@ankara.edu.tr, ORCID: 0000-0002-3230-0775
İletişim / Corresponding Author: Baise BİCAV
e-posta/e-mail: baisebicav@gmail.com
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GİRİŞ

Kanser tanısı alan hasta sayısı gün geçtikçe artmaktadır. Globocan verilerine göre 2022 yılında yeni kanser tanısı almış 20 milyon kişi olduğu ve 2045 yılında bu sayının 32,6 milyona ulaşacağı belirtilmektedir.[1] Bununla birlikte kanser tedavi çeşitleri ve hastaların hayatta kalma süreleri artmaktadır. Aynı zamanda tedavi süreçlerindeki değişim hastaların bu süreçlerde fiziksel, sosyal, psikolojik olarak farklı sorunlar yaşamasına neden olmaktadır.[2] Kanser hastalığının tedavi ve bakımı sağlık kuruluşlarının yanında bireyin evinde devam etmektedir. Bakım verenler kanserin tedavi ve yönetiminde kritik öneme sahiptir. Ülkemizde bakım verme genellikle aile üyeleri ve akrabalardan oluşmaktadır. Bakım tek boyutlu olmayıp bireye fiziksel, emosyonel ve maddi desteği de kapsayan çok boyutlu bir süreçtir. Bu süreç tanı konulmasından hastanın hayatını kaybetmesine kadar devam eden uzun bir süreci oluşturmaktadır. Aile bireyleri öncelikle hastalık ve tedavi sürecine uyum daha sonra hastasının bakım aktivitelerine uyum sağlamaya çalışmaktadır. Bu sürecin hastayı birçok yönden etkilemesinin yanında bakım verenlerin kendi sorumluluklarını yerine getirememesi, çalışma hayatlarının sonlanması, aile ve sosyal ilişkilerinde sorunlar yaşanmasına ve sağlıklarının olumsuz etkilenmesine neden olmaktadır. Bu nedenle bakım verenlere de fiziksel, sosyal, psikolojik açıdan yük oluşturmaktadır.[2,3] Yük kavramı, bakım verenin üstlenmiş olduğu bakımla beraber ortaya çıkan ruhsal sıkıntı, bedensel sağlık problemleri, maddi sıkıntılar, sosyal problemler, aile ilişkilerinde yaşanan sorunlar ve kontrolün kendisinde olmadığı hissini yaşama gibi olumsuz sonuçlar olarak ifade edilmektedir.[3] Kanser hastalarına bakım verenlerin diğer hastalıklara göre hastalık ve tedavi süreçlerinin doğası gereği ayrı bir bakım yükünün olduğu belirtilmektedir. Özdemir ve Özkaraman'ın (2022) yaptığı çalışmada kanser hastalarına bakım verenlerin bakım yükünün orta düzeyde olduğu ve hastaya uygulanan tedavi, aile tipi, gelir durumundan etkilendiğini belirtmişlerdir.[4] Saraçoğlu ve ark., (2022) yaptığı çalışmada kanser hastalarının bakım veren aile üyelerinin ağır bakım yükü algıladıklarını ve tükenmişlik yaşadıklarını belirtmişlerdir.[5] Bu nedenle kanser hastalarına bakım verenlerin bakım yüklerinin incelendiği, ihtiyaç duyduğu destek gereksinimlerine bakılan çalışmalarda bakım verenlerin algıladıkları yükü azaltmak, sosyal ve psikolojik olarak destekleyebilmek ve bilgi gereksinimlerinin saptanıp çözümlenebilmesi için bakım verenlere yönelik eğitim planlamanın gerekliliği sonucu ortaya çıkmaktadır.[6] Yıldız ve ark., (2017) yaptığı çalışmada kanser hastaların bakım verenlerin hastane ve ev ortamında karşılaştıkları zorluklarla baş edebilmeleri için hemşirelerin ve sağlık profesyonellerinin danışmanlık hizmeti vermesi önerilmektedir.[7] Gürkan ve ark., (2021) yaptığı çalışmada da erişkin kanser hastalarına bakım veren aile üyelerinin orta düzeyde bakım yükü algıladığını bu yükün hastaya ve bakım verene ait çeşitli faktörlerden etkilendiğini belirtmişlerdir. Bu nedenle hemşirelerin bakım verme yükünü düzenli aralıklarla değerlendirmesi ve bakım yükünün yüksek olduğu alanları saptayıp eğitim ve danışmanlık vermesi gerektiği sonucuna ulaşmışlardır.[2] Aile üyelerinin eğitiminde uygulanan öğretim stratejisi gereksinimlerine yanıt vermesi gerekir. Bu nedenle bakım verenlerin eğitiminde gereksinimlere yönelik eğitimler verilir. Dünya'da bakım verenlerin eğitiminde akran eğitimi, ev ziyaretleri, telefon danışmanlığı, online web tabanlı eğitim, motivasyonel görüşme ve öğrendiğini anlat gibi birçok yöntem kullanılmaktadır. Yapılan çalışmalar da bakım verene uygulanan eğitimin bakım yükünü azalttığı görülmektedir.[8-13] Ülkemizde bakım verenlerle yapılan çalışmalarda daha çok bakım verenin bakım yükü, yaşam kalitesi ve gereksinimlerinin saptandığı tanımlayıcı çalışmalar bulunmaktadır. Kanser hastalarına bakım verenlere uygulanan eğitim ve danışmanlık konusunda çok az sayıda çalışmaya rastlanmıştır.[14,15] Bu derlemenin de amacı günümüzde teknolojinin gelişmesi, bilgiye

erişimin kolaylaşmasıyla geleneksel eğitim modellerinin yerini alan ve dünya da sıklıkla kanser hastalarına bakım verenlerde kullanılan eğitimde güncel yaklaşımları ortaya koymaktır.

Akran Eğitimi

Akran danışmanlığı kişisel, sosyal, akademik olarak akranına yardım etmek için seçilen kişinin bu yardım ile ilgili eğitim görmesi ve eğitim sonrası akranına destekte bulunması olarak tanımlanmaktadır. Bir kişinin akranına yardım etmesidir. Akranının düşünce ve duygularını anlamalarını sağlar, yaşadıkları sorunun çözümüne yönelik seçenekleri açığa çıkarır, onlara destekleyici bir ilişki sunar ve onların kendi çözümlerini bulmalarını kolaylaştırma amacıyla yardımcı olmaya çalışır.[16] Kanserli hastalara ve bakım verenlerine de akran danışmanlığı verilmektedir. Haynes-Maslow ve ark., (2017) yaptığı meme kanseri hastaları ve bakım verenlerine akran desteği çalışmalarında kanser hastası, bakım veren ve meme kanseri geçirmiş akranlar ile görüşmeler yapılmıştır. Bu görüşmeler sonucunda beş tema ortaya çıkmıştır. Bu temalar; "*Yetkinlik", "Cinsiyet", "Yaş", "Kanser Deneyimi" ve "Akranla İletişim"*dir. "*Yetkinlik"* temasında, hasta ve bakım verenler bir akran danışmanının şefkatli, iyimser, duygusal olarak yetenekli ve yargılayıcı olmayan birisi olması isteği ifade edilmiştir. "*Cinsiyet"* temasında akran danışmanının aynı cinsiyette olmasının iletişimi kolaylaştıracağını ve "*Yaş*" temasında ise akran danışmanının yaş olarak kendilerine yakın ya da daha büyük olabileceğini istediklerini ifade ettikleri belirlenmiştir. "*Kanser deneyimi"* temasında aynı hastalığı geçirmiş ve iyileşmiş kişilerden akran danışmanı seçilmesinin önemli olduğunu ifade ettikleri saptanmıştır. Son olarak "*Akranla iletişim*" temasında ise kanser hastaları ve bakım verenler aile desteğinin önemli olduğu ama aile dışından bir akranla konuşurken duygularını, korkularını bir aile üyesine yük olmaktan ve onları endişelendirmekten korktukları için tam olarak ifade edemedikleri bu nedenle bir akranın onlara daha iyi geleceğini ifade etmişlerdir.[17] Mosher ve ark., (2018) ilerlemiş gastrointestinal kanserli hasta ve bakım verenlerine akran desteği ile başa çıkma becerileri kazandırmak amacıyla yaptığı çalışmada akran danışmanlığı hasta ve bakım verenin yorgunluğu ve bakım yükünü azalttığı saptanmıştır. Hasta ve bakım verenlerin başa çıkma becerilerinde ise tek başına akran eğitiminin etkili olmadığını belirtmişlerdir[19]. Berry-Carter ve ark., (2021) yaptığı kanserli çocukların bakım verenlere yönelik yapılan 20 benzer deneyim yaşamış akran danışmanı ve 72 bakım verenden oluşan çalışmada kanserli çocuğa bakım verenler ve ebeveynlerin akran danışmanlığına olumlu baktığını, süreci daha iyi anladığı ve endişesinin azaldığını saptamışlardır.[11] Bu çalışmalar doğrultusunda, özellikle olumlu bakış açısına sahip bireylerle görüşme sağlanması ve süreç içerisinde olumlu baş etme stratejilerini birbirine kazandırma boyutlarıyla akran eğitimi bakım verenlerin eğitim ve danışmanlığında değerlendirilebilir.

Telefon Danışmanlığı

Telefon danışmanlığı bakım verenler ve hastalar ile etkileşim kurarak sosyal desteği artırır ve psikolojik sıkıntıların azalmasına katkı sağlar. Bakım veren ve hastaların yaşadığı sorunlara odaklanıp bu sorunları ele almayı kolaylaştırır.[19] Heckel ve ark., (2018) yaptığı kanser hastalarına bakım verenlerin bakım yükünü azaltmak için telefonla arama programı çalışmasında bakım verenler deney ve kontrol grubuna ayrılmıştır. Deney grubu telefon danışmanlığı ile takip edilmiştir.1 aylık izlem sonucunda bakım verenin bakım yüküne telefon danışmanlığının etkisi olmadığı karşılanamayan ihtiyaç sayısını azalttığını belirtmişlerdir. [20] Badger ve ark., (2020) meme kanseri olana bakım veren ve hastaların psikolojik sıkıntı ve semptomlarını yönetmek için hasta ve bakım verenlere iki ay boyunca telefonla danışmanlık ve destekleyici sağlık eğitimi verilmiştir. Dördüncü ve altıncı aylarda ise hasta ve bakım verenler değerlendirilmiştir. Telefonla danışmanlığın hastalarda semptom sayısını azalttığı bakım verenlerin ise anksiyete ve depresyonunu azalttığını belirtmişlerdir.[19]

Lewis ve ark., (2022) yaptığı çalışmada meme kanseri olan hastaların bakım veren eşlerine telefonla verilen danışmanlık sonucunda bakım verenlerin depresyon ve kaygılarının önemli ölçüde iyileştiğini, öz yeterliliklerinin ve meme kanseri olan eşlerini destekleme becerilerinin geliştiğini belirtmişlerdir.[21] Literatürde yer alan çalışmalar ile hem hasta hem de bakım veren tarafından yaşanan sorunların yönetimine olumlu etki gösterdiği görülmektedir. Telefon danışmanlığı uygulamasının bakım verenler tarafından sağlık sistemine ulaşım kolaylığı sağlaması ve kendilerini güvende hissetmelerini sağlaması açılarından kurumsal imkanlar dahilinde değerlendirilmesi ve işletilmesi bakım kalitesine önemli katkılar sağlayacaktır.

Online ve Web Tabanlı Danışmanlık

Sağlık bakım sisteminde meydana gelen teknolojik değişimler özellikle yaşanan COVİD-19 pandemisi kliniklerde hastaların bakım ve eğitiminde değişikliklere neden olmuştur. Teknoloji tabanlı müdahaleler planlarken kullanacak kişilere ne kadar yarar sağlayacak bu teknolojiye erişimde bir engelin olup olmadığını belirlemek önemlidir. Tüm kullanıcıların ihtiyacını karşılayıp karşılamadığı değerlendirilmelidir.[22] Washington ve ark., bakım verenlerin çevrimiçi destek grubuna katılımını etkileyen faktörleri incelediği çalışmada bakım verenlerin çevrimiçi grupta kişisel bilgileri paylaşma da isteksiz olduğunu ve birçok bakım verenin düzenli olarak katılmadığını kısa süreli katıldığını bu nedenle eğitim planlanırken grubun özelliklerine ve ihtiyaçlarına göre planlanması gerektiğini bildirmişlerdir.[23] Yapılan çalışmalarda kanser hastalarına bakım verenlerin teknoloji tabanlı müdahaleler sonrasında kanser bilgisi ve iletişimlerinin önemli ölçüde iyileştiğini göstermektedir.[22,24] Merz ve ark., (2022) yaptığı ilerlemiş kanser hastaları ve bakım verenleri için destekleyici bakım mobil uygulaması müdahalesi çalışmasında hasta ve bakım verenlerin destekleyici bakım gereksinimlerini karşıladığını bakım verenlerin yaşam kalitesini artırdığını belirtmişlerdir.[25] Chen ve ark., (2022) ilerlemiş kanser hastalarına ve bakım verenlere uyguladığı WeChat tabanlı ikili yaşam gözden geçirme programına hasta ve bakım verenler deney ve kontrol olarak randomize edilerek dört hafta boyunca takip edilmiştir. Deney grubu haftada iki kez WeChat tabanlı ikili yaşam gözden geçirme programı almıştır. Bu programa katılan grubun hasta ve bakım verenlerinde yaşam kalitesi ve aile uyumunda artış saptamışlar ve bakım verenlerin bakım yükünün azaldığını belirtmişlerdir.[26] Uysal ve ark., (2021) yaptığı çalışmada bakım verenlerin radyoterapi sürecini güçlendirmek için mobil destekli güçlendirme programı uygulamışlardır. Mobil destekli güçlendirme programı radyoterapi süreci ile ilgili eğitim ve bilgilendirmelerden, videolardan, etkinliklerden ve radyoterapi sürecinde hasta yakınlarına destek olacak soru-cevap modüllerinden oluşturulmuştur. Mobil destekli güçlendirme programı uygulanan hasta ve bakım verenlerin kontrol grubuna göre ortalama sıkıntı puanlarının daha düşük ve yaşam kalitesinin daha yüksek olduğunu belirtmişlerdir.[27] Luo ve ark., (2020) yaptığı bakım verenlere uygulanan web tabanlı eğitimleri inceledikleri sistematik derlemede eğitimlerin içeriğinin bilgi desteği, iletişim desteği, beceri geliştirme ve psiko-eğitimden oluştuğunu ifade etmektedirler. Bu eğitimlerin kanser hastalarına bakım verenlerin fizyolojik ve psikolojik sağlıklarını, yaşam kalitesini olumlu etkilediğini bildirmişlerdir.[28] Nightingale ve ark., (2022) baş boyun kanserli hastalara bakım verenlere uyguladıkları psiko-eğitim ve öz yönetim becerilerini geliştirmeye yönelik eğitimin bakım verenlerin bakım verme öz yeterliliğini artırdığını belirtmişlerdir. Özellikle progresif gevşeme egzersizinin öz yeterliliği önemli ölçüde etkilediğini belirtmişlerdir.[29] Li ve ark., (2022) yaptığı sistematik derleme ve meta analiz çalışmasında e-sağlık uygulamalarının yani sağlık eğitimini, bilgi ve araştırmayı geliştirmek için kullanılan teknolojik uygulamaların bakım verenlerin depresyonu ve yaşam kalitesini önemli ölçüde iyileştirdiğini bakım yüküne etki etmediğini

bildirmişlerdir.[9] Sağlık sisteminde dünya genelinde yaşanan pandemi sürecinin önemli bir kazanımı olarak "*Online ve Web Tabanlı Danışmanlık"* uygulamalarının yaygınlaşması ve daha aktif olarak kullanımının artması bireylerin sağlık profesyonelleriyle daha yakın etkileşimini hasta bakım sürecinin içerisinde bakım verenlere olumlu katkılar sağladığı ve sağlayacağı düşünülmektedir.

Öğrendiğini Anlat Yöntemi

Öğrendiğini anlat yöntemi sağlık çalışanları ve hizmet alanlar arasındaki iletişimi kolaylaştıran tanı, tedavi ve ilaçları ile ilgili bilgileri öğrenmelerini sağlayan etkili bir yöntemdir. Hastaların ve bakım verenlerin sağlık ekibi ile iletişimi sırasında önemli bilgileri hatırlamaları ve açıklama yapmalarını gerektiren bir yöntemdir. Yöntem açıklama, öğrendiğini anlattırma, değerlendirme, tekrarlama ve yeniden değerlendirme aşamalarından oluşmaktadır. En önemli avantajlarından birisi sağlık ekibinin aktardığı bilginin doğru anlaşılıp anlaşılmadığını belirlemesidir. Son yıllarda hasta eğitiminde sıklıkla kullanılan bir yöntemdir.[30-32] Öğrendiğini anlat yöntemi daha çok kanser hastalarına bakım verenlere göre sadece kanser hastalarıyla yapılmıştır. Choi ve Choi'nin (2021) kanserli hastalara öğrendiğini anlat yöntemiyle verilen eğitimin etkisini incelediği sistematik derlemede öğrendiğini anlat yönteminin kanser hastalarında anksiyete, ölüm kaygısı, sağlık okuryazarlığı semptom deneyimi ve öz yeterliliği olumlu etkilediğini belirtmişlerdir.[33] Prochnow ve ark., (2019) yaptığı hasta ve bakım verenlerine hastaya yeni başlana ilaçların kullanımı konusunda öğrendiğini anlat yöntemiyle eğitimin hasta ve bakım verenlerde ilacın kullanımı ve yan etkilerini daha iyi öğrendiklerini belirtmişlerdir.[34]Literatürde yer alan çalışmalarla birlikte, "*Öğrendiğini anlat yöntemi"* aslında hasta ve bakım verenlerin eğitim/danışmanlık aktivitelerinde kültürel yapımız içerisinde informal bir şekilde yaptığımız ya da uyguladığımız bir yöntemdir. Toplumumuzda özellikle hastalık süreçlerinde hasta yakınları benzer sağlık sorununa sahip kişiler ile görüşmeleri sırasında paylaşımlarda bulunmaktadır. Bu paylaşımlar; bakım süreci içerisinde birbirlerine hasta bakım, sosyal destek kaynaklarına ulaşım, sağlık sistemini etkili kullanma boyutlarıyla destek sağlayarak sürecin daha kolay yaşanmasına katkı sağlamaktadır. Bu yöntemin avantajlı yönleri değerlendirilerek formal bir eğitim yöntemi olarak kullanımı sağlanabilir.

Ev Ziyaretleri

Ev ziyaretleri hem bakım verenlerin hem de hastaların konforunu artıran bir danışmanlık yöntemidir. Hasta ve bakım verenin yaşam kalitesini artırır aynı zamanda hastane yatışlarını azaltarak sağlık maliyetlerini azaltır.[35,36] Han ve ark., (2018) yaptığı çalışmada kanser hastalarına bakım verenlerin kanser ağrı yönetiminde yaşadıkları zorlukları belirlemek için hemşirelerin yaptığı ev ziyaretlerinde bakım verenlerin %30'u iletişim ve ekip çalışması, %27'si ilaç kullanımı ve bilgisi konusunda zorluk yaşadıklarını bildirmişlerdir. Bakım verenlerin %52'sinde ağrı yönetiminde zorluk yaşadıklarını belirtmişlerdir. Hemşirelerin ev ziyaretlerinde bakım verenlerin ağrı yönetiminde yaşadıkları zorlukları değerlendirmesi ve eğitim planlaması gerektiği sonucuna ulaşmışlardır.[37] Chen ve ark., (2021) yaptığı çalışmada kanserli hasta ve aile bakıcılarına hemşire rehberliğinde 6-9 hafta boyunca ev ziyaretleri, telefon görüşmeleri ve psikososyal eğitim düzenlemişlerdir. Hem hasta hem de bakım verenlerde öz yeterliliklerinde artma ve bakım verenlerin yaşam kalitesinde artma olduğunu belirtmişlerdir.[38]

SONUÇ VE ÖNERİLER

Yapılan çalışmalarda kanser hastalarına bakım verenlerin kanser hastası olan yakınına bakım verirken birçok yönden sorunla karşılaştığı ve bu sorunlarla baş etmede eğitim ve danışmanlığın önemli bir rolü olduğu görülmektedir. Hemşireler kanser hastası ve bakım verenlere akran eğitimi, online web tabanlı eğitim, video konferans yoluyla eğitim, telefonla danışmanlık ve ev ziyaretleri gibi birçok yöntem kullanarak eğitimler planlamalarının çok önemli katkılar sağlayacağı açıktır. Bu eğitimlerin kanser hastaları ve bakım verenlerin yaşam kalitesini artırdığı, fiziksel, sosyal ve psikolojik açıdan desteklediği, bakım verenlerin bakım yükünü azaltmada olumlu etkileri görülmektedir. Hasta ve bakım verenlerin bireysel gereksinimleri temelinde uygun eğitim yöntemi ya da yöntemlerin kombinasyonu sağlanarak eğitim ve danışmanlığın planlanması gereklidir.

KAYNAKLAR

1. Global Cancer Observatory (2022). ‘‘New Global Cancer Data’’. Erişim Adresi: https://gco.iarc.fr/tomorrow/en/dataviz/isotype (Erişim tarihi: 22.09.2024)
2. Gürkan, A, Dikmen Aydın, Y, Kırtıl, İ. ve Oğuz, S. (2021). ‘‘Erişkin Kanser Hastalarının Aile Bakım Vericilerinin Bakım Verme Yükü ve Etkileyen Faktörlerin İncelenmesi’’. Türkiye Klinikleri Journal of Nursing Sciences, 13 (3), 457-67.
3. Lafcı, D, Yıldız, E, Toru, F. ve Karakaya, D. (2020). ‘‘Kanser Hastalarında Bakım Yükü ve Bakım Verenlere Etkisi’’. Sağlık Akademisyenleri Dergisi, 7 (2), 105-113.
4. Özdemir, G. ve Özkaraman, A. (2022). ‘‘Kanser Hastasına Bakım Verenlerin Bakım Yükü ve Duygusal Zekâ Düzeylerinin Değerlendirilmesi’’. Gevher Nesıbe Journal of Medıcal and Health Scıences, 7 (18), 49-63.
5. Saraçoğlu, E, Altay, B. ve Dönmez, M.D. (2022). ‘‘Kanserli Hastalara Bakım Veren Aile Üyelerinin Bakım Verme Yükü ve Tükenmişlik Düzeyleri’’. Akademik Sosyal Araştırmalar Dergisi,10 (124),370-382.http://dx.doi.org/10.29228/ASOS.54970
6. Bilgin, A, Özdemir, L. and Öksüzoğlu, O. B. (2022). ‘‘Examination of Family Caregivers of Advanced Cancer Patients Within the Scope of the Cancer Family Caregiving Experience Model: An Embedded Mixed-Methods Design’’. European Journal of Cancer Care, 31 (6), e13659. https://doi.org/10.1111/ecc.13659
7. Yıldız, E, Karakaş, S. A, Güngörmüş, Z. and Cengiz, M. (2017). ‘‘Levels of Care Burden and Self-efficacy for Informal Caregiver of Patients With Cancer’’. Holistic Nursing Practice, 31 (1), 7–15. https://doi.org/10.1097/HNP.0000000000000185
8. Gunn, K.M, Ross, X.S. and Olver, I. (2022). ‘‘Optimizing Rural People's Access to Relevant Cancer Education and Support Using Peer-Led YouTube Films’’. Journal of Cancer Education, 37 (4), 973–982. https://doi.org/10.1007/s13187-020-01908-w
9. Li, Y, Li, J, Zhang, Y, Ding, Y. and Hu, X. (2022). ‘‘The Effectiveness of E-Health İnterventions on Caregiver Burden, Depression, and Quality of Life in İnformal Caregivers of Patients with Cancer: A Systematic Review And Meta-Analysis of Randomized Controlled Trials’’. International Journal of Nursing Studies, 127,104179.https://doi.org/10.1016/j.ijnurstu.2022.104179
10. Gohari, F, Hasanvand, S, Gholami, M, Heydari, H, Baharvand, P. and Almasian, M. (2022). ‘‘Comparison of the Effectiveness of Home Visits and Telephone Follow-Up on the Self-Efficacy of Patients Having Un-Dergone Coronary Artery Bypass Graft Surgery (CABG) and the Burden of Their Family Caregivers: A Randomized Con-Trolled Trial’’. Investigacion Y Educacion En Enfermeria, 40 (1), e14. https://doi.org/10.17533/udea.iee.v40n1e1
11. Berry-Carter, K, Barnett, B, Canavera, K, Baker, J.N. and Mandrell, B.N. (2021). ‘‘Development of a Structured Peer Mentoring Program for Support of Parents and Caregivers of Children with Cancer’’. Journal of Pediatric Nursing, 59, 131–136. https://doi.org/10.1016/j.pedn.2021.03.031
12. Kim, H, Goldsmith, J.V, Sengupta, S, Mahmood, A, Powell, M.P, Bhatt, J, Chang, C. F. and Bhuyan, S.S. (2019). ‘‘Mobile Health Application and e-Health Literacy: Opportunities and Concerns for Cancer Patients and Caregivers’’. Journal of Cancer Education, 34 (1), 3–8. https://doi.org/10.1007/s13187-017-1293-5
13. Mourão, C.M.L, Fernandes, A.F.C, Moreira, D.P. and Martins, M.C. (2017). ‘‘Motivational İnterviewing in the Social Support of Caregivers of Patients with Breast Cancer in Chemotherapy’’. Entrevista Motivacional No Suporte Social De Cuidadores De Pacientes Com Câncer De Mama Em Quimioterapia. Revista da Escola de Enfermagem da USP, 51, e03268. https://doi.org/10.1590/S1980-220X2017001803268
14. Toptaş Kılıç, S. ve Öz, F. (2019). ‘‘Kanser Hastalarına Bakım Veren Aile Üyelerinin Sorunları, Yaşam Kalitesi ve Müdahaleler’’. Hacettepe Üniversitesi Hemşirelik Fakültesi Dergisi, 6 (3), 197-204.
15. Uğur, Ö. ve Fadıloğlu, Z. (2012). ‘‘Kanser Hastasına Bakım Verenlere Uygulanan Planlı Eğitimin Bakım Veren Yükü Üzerine Etkisi’’. Cumhuriyet Hemşirelik Dergisi, 1 (2),53-58.
16. Aladağ, M. ve Tezer, E. (2016). ‘‘Akran Danışmanlığı Nedir? Ne Değildir?’’. Türk Psikolojik Danışma ve Rehberlik Dergisi, 3 (27), 139-152.
17. Haynes-Maslow, L., Allicock, M. and Johnson, L.S. (2017). ‘‘Peer Support Preferences Among African-American Breast Cancer Survivors And Caregivers’’. Supportive Care in Cancer, 25 (5), 1511–1517. https://doi.org/10.1007/s00520-016-3550-2
18. Mosher, C.E, Secinti, E, Johns, S.A, O'Neil, B.H, Helft, P.R, Shahda, S, Jalal, S.I. and Champion, V.L. (2018). ‘‘Examining The Effect of Peer Helping in a Coping Skills İntervention: A Randomized Controlled Trial for Advanced Gastrointestinal Cancer Patients and Their Family Caregivers’’. Quality of Life Research: An İnternational Journal of Quality of Life Aspects of Treatment, Care and Rehabilitation, 27 (2), 515–528. https://doi.org/10.1007/s11136-017-1620-7
19. Badger, T.A, Segrin, C, Sikorskii, A, Pasvogel, A, Weihs, K, Lopez, A.M. and Chalasani, P. (2020). ‘‘Randomized Controlled Trial of Supportive Care İnterventions to Manage Psychological Distress and Symptoms in Latinas with Breast Cancer and Their İnformal Caregivers’’. Psychology & Health, 35 (1), 87–106. https://doi.org/10.1080/08870446.2019.1626395

20. Heckel, L, Fennell, K.M, Reynolds, J, Boltong, A, Botti, M, Osborne, R.H, Mihalopoulos, C, Chirgwin, J, Williams, M, Gaskin, C. J, Ashley, D.M. and Livingston, P. M. (2018). ‘‘Efficacy of A Telephone Outcall Program to Reduce Caregiver Burden Among Caregivers of Cancer Patients [PROTECT]: A Randomised Controlled Trial’’. BMC Cancer, 18 (1), 59. https://doi.org/10.1186/s12885-017-3961-6

21. Lewis, F.M, Griffith, K.A, Wu, K.C, Shands, M.E. and Zahlis, E.H. (2022). ‘‘Helping Us Heal: Telephone Versus in-Person Marital Communication and Support Counseling for Spouse Caregivers of Wives with Breast Cancer’’. Supportive Care in Cancer, 30 (1), 793–803. https://doi.org/10.1007/s00520-021-06439-8

22. Su, Z, Li, X, McDonnell, D, Fernandez, A.A, Flores, B.E. and Wang, J. (2021). ‘‘Technology-Based Interventions for Cancer Caregivers: Concept Analysis’’. JMIR Cancer, 7 (4), e22140. https://doi.org/10.2196/22140

23. Washington, K.T, Oliver, D.P, Benson, J.J, Rolbiecki, A.J, Jorgensen, L.A, Cruz-Oliver, D.M. and Demiris, G. (2020). ‘‘Factors İnfluencing Engagement in an Online Support Group for Family Caregivers of İndividuals with Advanced Cancer’’. Journal of Psychosocial Oncology, 38 (3), 235–250. https://doi.org/10.1080/07347332.2019.1680592

24. Heynsbergh, N, Heckel, L, Botti, M. and Livingston, P.M. (2018). ‘‘Feasibility, Useability and Acceptability of Technology-Based İnterventions for İnformal Cancer Carers: A Systematic Review’’. BMC Cancer, 18 (1), 244. https://doi.org/10.1186/s12885-018-4160-9

25. Merz, A, Mohamed, A, Corbett, C, Herring, K, Hildenbrand, J, Locke, S.C, Patierno, S, Troy, J, Wolf, S, Zafar, S.Y, Chilcott, J, Higgins, A, Manassei, H, McCoy, C, Buckingham, T.L. and LeBlanc, T.W. (2022). ‘‘A Single-Site Pilot Feasibility Randomized Trial of A Supportive Care Mobile Application İntervention for Patients with Advanced Cancer and Caregivers’’. Supportive Care in Cancer, 30 (10), 7853–7861. https://doi.org/10.1007/s00520-022-07224-x

26. Chen, Y, Sun, L, Xiao, H, Zheng, J. and Lin, X. (2022). ‘‘Evaluation of a WeChat-based Dyadic Life Review Program for People with Advanced Cancer and Family Caregivers: A Mixed-Method Feasibility Study’’. Palliative Medicine, 36 (3), 498–509. https://doi.org/10.1177/02692163211066736

27. Uysal, N, Bağçivan, G, Özkaraman, A, Karaaslan Eşer, A, Çetin, F, Çalışkan, B.B, Elöz, A, Gündoğdu, E.İ, Olcay, G.K, Kaya, B. and Soylu, Y. (2021). ‘‘Empowering Caregivers in the Radiotherapy Process: The Results of A Randomized Controlled Trial’’. Supportive Care in Cancer, 29 (5), 2395–2404. https://doi.org/10.1007/s00520-020-05743-z

28. Luo, X, Gao, L, Li, J, Lin, Y, Zhao, J. and Li, Q. (2020). ‘‘A Critical Literature Review of Dyadic Web-Based İnterventions to Support Cancer Patients and Their Caregivers, and Directions for Future Research’’. Psycho-Oncology, 29 (1), 38–48. https://doi.org/10.1002/pon.5278

29. Nightingale, C, Sterba, K.R, Levine, B, Tooze, J.A, Greven, K, Frizzell, B, Hughes, R. T, Snavely, A, Lesser, G.J, Norona, S, Pleasant, K. and Weaver, K.E. (2022). ‘‘Feasibility and Acceptability of a Multi-Modality Self-Management Intervention for Head and Neck Cancer Caregivers: A Pilot Randomized Trial’’. Integrative Cancer Therapies, 21, 15347354221098984.https://doi.org/10.1177/15347354221098984

30. Kul Uçtu, A. ve Özerdoğan, N. (2020).‘‘Emzirme Eğitiminde Öğrendiğini Anlat (Teach-Back) Yönteminin Kullanımı’’. Anadolu Hemşirelik ve Sağlık Bilimleri Dergisi, 23 (1): 162-168. DOI: 10.17049/ataunihem.548173

31. Cutilli, C.C. (2020). ‘‘Excellence in Patient Education: Evidence-Based Education that Sticks and Improves Patient Outcomes’’. The Nursing Clinics of North America, 55 (2), 267–282. https://doi.org/10.1016/j.cnur.2020.02.007

32. Farris, C. (2015). ‘‘The Teach Back Method’’. Home Healthcare Now, 33 (6), 344–345. https://doi.org/10.1097/NHH.0000000000000244

33. Choi, S. and Choi, J. (2021). ‘‘Effects of the Teach-Back Method Among Cancer Patients: A Systematic Review of the Literature’’. Supportive Care in Cancer, 29 (12), 7259–7268. https://doi.org/10.1007/s00520-021-06445-w

34. Prochnow, J.A, Meiers, S.J. and Scheckel, M.M. (2019). ‘‘Improving Patient and Caregiver New Medication Education Using an Innovative Teach-back Toolkit’’. Journal of Nursing Care Quality, 34 (2), 101–106. https://doi.org/10.1097/NCQ.0000000000000342

35. Wu, T.Y, Hsiao, S.H, Huang, S.J, Kuo, K.L, Woung, L.C. and Chen, F.C. (2021). ‘‘The Effect of Home Visits on Healthcare Resource Utilisation’’. Australian Journal of General Practice, 50 (8), 595–602. https://doi.org/10.31128/AJGP-07-20-5512

36. Rico-Blázquez, M, García-Sanz, P, Martín-Martín, M, López-Rodríguez, J.A, Morey-Montalvo, M, Sanz-Cuesta, T, Rivera-Álvarez, A, Araujo-Calvo, M, Frías-Redondo, S, Escortell-Mayor, E, Cura-González, I.D. and CuidaCare Group (2021). ‘‘Effectiveness of A Home-Based Nursing Support and Cognitive Restructuring İntervention on the Quality of Life of Family Caregivers in Primary Care: A Pragmatic Cluster-Randomized Controlled Trial’’. International Journal of Nursing Studies, 120, 103955. https://doi.org/10.1016/j.ijnurstu.2021.103955

37. Han, C.J, Chi, N.C, Han, S, Demiris, G, Parker-Oliver, D, Washington, K, Clayton, M. F, Reblin, M. and Ellington, L. (2018). ‘‘Communicating Caregivers' Challenges with Cancer Pain Management: An Analysis of Home Hospice Visits’’. Journal of Pain and Symptom Management, 55 (5), 1296–1303. https://doi.org/10.1016/j.jpainsymman.2018.01.004

38. Chen, H.L, Annie Kao, T.S, Reuille, K.M. and Northouse, L. (2021). ‘‘FOCUS Program: Treating Patients with Cancer and Family Caregivers as a Unit of Care’’. Clinical Journal of Oncology Nursing, 25 (3),17–25. https://doi.org/10.1188/21.CJON.E17-E25

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E-Reçete ve E-Reçete Sistemleri

E-Prescription and E-Prescription Systems

Okan ÖZKAN[1], Selin KALENDER[2]

ÖZ

Hastanelerde yatarak tedavi gören hastaların en yaygın zarar görme nedeni ilaç hatalarıdır. İlaç hataları tıbbi hataların en yaygın nedenidir. İlaç hataları olumsuz ilaç olaylarının (advers drug events-ADE) yaşanmasına neden olabilir. ADE'lerin ölüm ve kalıcı engellilik gibi geri dönüşü olmayan sonuçları bulunmaktadır. Bununla birlikte bu durum genellikle önlenebilir niteliktedir. ADE'lere neden olan ilaç hataları en sık reçete yazma aşamasında meydana gelmektedir. Bir ilacın yanlış reçete edilmesi ya da yanlış yolla verilmesi nedeni ile her yıl binlerce kişi hayatını kaybetmektedir. Bu gibi sonuçlarla karşılaşılmaması için reçete yazma süreçlerinin elektronik olarak kontrol altına alınması gerekmektedir. Bu süreçte meydana gelebilecek ilaç hatalarının engellemesi, azaltılması ve ortadan kaldırılması amacıyla elektronik reçete (e-reçete) sistemleri yaygın olarak kullanılmaktadır. Bu çalışmanın amacı e-reçete konusu detaylı olarak ele almaktır. Çalışmada e-reçetenin tanımına, e-reçete sisteminin kullanıldığı ülkelere, potansiyel faydalarına, olası zararlarına, zorluklarına ve literatürde e-reçete konusuna ilişkin yapılan çalışmalara yer verilmiştir. Çalışmada e-reçete sistemlerinin mevcut ve potansiyel çok sayıda faydasının olduğu tespit edilmiştir. Bununla birlikte sistemlerin kullanımının çeşitli riskleri olduğu belirlenmiştir. E-reçetelerin hastanelerde ilaç ve hasta güvenliği başta olmak üzere iş akış süreçlerini nasıl etkilediğine dair kapsamlı bir anlayış geliştirilmesine ihtiyaç olduğu düşünülmektedir.

Anahtar Kelimeler: E-Reçete, İlaç Hataları, İlaç Güvenliği, Olumsuz İlaç Olayları.

ABSTRACT

Medication errors are the most common cause of injury to inpatients in hospitals and the most common cause of medical errors. Medication errors can cause adverse drug events (ADE). ADEs have irreversible consequences such as death and permanent disability. However, this condition is usually preventable. Medication errors that cause ADEs most often occur during the prescribing phase. Thousands of people die yearly due to incorrect prescriptions of medication or medication misuse. To avoid such consequences, prescribing processes should be controlled electronically. Electronic prescription (e-prescription) systems are widely used to prevent, reduce, and eliminate medication errors that may occur in this process. The purpose of this study object subject of e-prescription is to deal with it in detail. The study includes the definition of e-prescription, the countries where the e-prescription system is used, its potential benefits, possible harms, difficulties, and studies about e-prescription in the literature. In the study, it has been determined that e-prescription systems have many existing and potential benefits. However, it has been determined that using the systems has various risks. It is thought that there is a need to develop a comprehensive understanding of how e-prescriptions affect workflow processes in hospitals, especially drug and patient safety.

Keywords: E-prescription, Medication Errors, Medication Safety, Adverse Medication Events.

[1] Doç. Dr., Okan ÖZKAN, Sağlık Bilimleri Üniversitesi, Gülhane Sağlık Bilimleri Fakültesi, Sağlık Yönetimi Bölümü, okan.ozkan@sbu.edu.tr, ORCID: 0000-0001-9491-8696
[2] Dr. Öğr. Üyesi Selin KALENDER, Sağlık Bilimleri Üniversitesi, Gülhane Sağlık Bilimleri Fakültesi, Sağlık Yönetimi Bölümü, selin.kalender@sbu.edu.tr ORCID: 0000-0002-4377-9339

İletişim / Corresponding Author: Selin KALENDER
e-posta/e-mail: selin.kalender@sbu.edu.tr

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GİRİŞ

Sağlık sistemi içinde yer alan tüm aktörlerin (hastaların tedavi ve bakım süreçlerine dahil olan) hastalara reçete edilen ya da hasta tarafından kullanılan ilaçlar hakkındaki bakış açılarının eksik olduğuna dikkat çekilmektedir. Bu durumun temel nedeninin ise sağlık sisteminin, sistemde yer alan farklı aktörler arasında tutarsız bilgi akışı sağlaması olduğu ifade edilmektedir. Genellikle kullandığı ilaçlarla ilgili hastanın kendisi tam bilgi sahibidir. Daha açık bir ifade ile sadece hastanın kendisi tam olarak hangi ilaçları aldığını bilmektedir. Bu durum hastanın ilaç yönetimi ile ilgili sürece dahil olanlar arasındaki bilgi akışında bir takım zorluklar ortaya çıkarmaktadır.[1] Bilgi akışındaki zorluklar nedeniyle de ilaç güvenliğine ilişkin sorunlar ve ilaç hatalarından kaynaklı olumsuz durumlar yaşanmaktadır.

Hastanelerde yatarak tedavi gören hastaların en yaygın zarar görme nedeni olumsuz ilaç olaylarıdır (advers drug events-ADE). Bununla birlikte bu durumun genellikle önlenebilir olduğuna dikkat çekilmektedir. Önlenebilir ilaç olaylarına neden olan hatalarının ise en sık reçete yazma aşamasında meydana geldiği bildirilmektedir. Bir ilacın yanlış reçete edilmesi ya da yanlış bir yolla verilmesi nedeni ile her yıl binlerce kişinin hayatını kaybettiği belirtilmektedir.[2,3] 1990'lı yılların ortasında ABD'de hastanelerde yaşanan olumsuz ilaç olaylarının ve potansiyel etkilerinin ortaya konulması amacıyla geniş kapsamlı bir araştırma yapılmıştır. Araştırma sonucunda ilaçların reçete edilmesi süreci hata yapmaya eğilimli bir süreç olarak tanımlanmıştır. Hastanelerde yaşanan olumsuz ilaç olaylarının yarısından fazlasına (%56) reçeteleme (yazma ve sipariş) sürecinde yapılan hataların neden olduğu tespit edilmiştir.[4] Bu kapsamda reçeteleme sürecindeki hataların önlenerek hasta ve ilaç güvenliğinin sağlanması amacıyla çeşitli sistemler geliştirilmiş ve kullanılmaya başlanmıştır. Bu sistemler arasında yer alan elektronik reçete (e-reçete) sistemi, reçeteleme sürecindeki tüm aşamaların elektronik ortamda yapılmasını ve kayıt altında alınmasını sağlamıştır. Böylece süreçte meydana gelebilecek hataların önlenmesi ve azaltılması mümkün hale gelmiştir. Bu çalışmada e-reçete ve e-reçete sistemleri konusunun incelenmesi amaçlanmıştır.

Bu kapsamda çalışmada ilk olarak ilaç hataları konusuna yer verilmiştir. Ardından ilaç hatalarının neden olduğu güvenlik endişeleri karşısında gündeme gelen elektronik sağlık (e-sağlık) çözümlerine kısaca değinilmiştir. Özellikle ilaç hatalarının en sık reçete yazma aşamasında meydana gelmesine bir çözüm olarak gündeme getirilen e-reçetenin tanımına, e-reçete ve e-reçete sistemlerinin kullanıldığı ülkelere, mevcut ve potansiyel faydalarına, sistemlerdeki mevcut ve muhtemel sorunlara ve literatürde bu konu ile ilgili yapılan çalışmalara yer verilmiştir. Son olarak konu ile ilgili genel bir değerlendirme yapılmış ve bazı önerilerde bulunulmuştur.

İlaç Hataları ve E-Sağlık

İlaç hataları nedeni ile hastaların zarar görmesi sık karşılaşılan bir durumdur. Hatalar sıklıkla aşırı doz alımı, doz atlama, ilaç-ilaç etkileşimleri, ilaç alerjileri, yanlış kullanım süresi ve zamanı ile endikasyon dışı kullanımlardan kaynaklanmaktadır.[5,6] İlaç hatalarını önlemek için ilaç bilgi sistemleri ve klinik karar destek sistemleri (Clinical Decision Support Systems – CDSS) gibi çeşitli araçlar kullanılmaktadır. Bu araçlar, sistemdeki ilgili tüm bilgilerin kullanılabilirliğini ve otomatik kontrolünü sağlayarak olası ilaç hatalarını önlemeyi amaçlamaktadır.[7] Pratikte bu araçlar mevcut olmasına ve yaygın olarak kullanılmasına rağmen birçok ülkede reçete edilen ve dağıtılan ilaçlara ilişkin bilgilerin çeşitli sağlık hizmeti sağlayıcıları arasında aktarılması hala bir zorluk olarak kalmaktadır.[8] Yapılan araştırmalar, reçetelenen ve kullanılan ilaçlarla ilgili eksik veya hatalı bilgiler nedeniyle birçok hastanın

zarar gördüğünü göstermektedir. Bu nedenle birçok ülke, bu ilaç bilgilerinin ulusal ölçekte kullanılabilirliğini artırmak için bir hastanın doğru ve güncel ilaç listesini sağlamayı amaçlayan elektronik sağlık teknolojileri/çözümleri (genellikle e-ilaç ya da e-sağlık olarak adlandırılan) sunmaktadır.[6] E-sağlık teknolojileri ilaç güvenliği sürecinde önemli rol üstlenmektedir. İlaç güvenliği sürecine dahil olan kişilerin karmaşık düzeyde belirli sorumlukları vardır. Bu sebeple sürecin iyileştirilmesinde olumlu bir sonuç elde edilmesi için genellikle farklı yaklaşım ve müdahalelerin kombinasyonları gereklidir. Bu noktada e-sağlık teknolojilerindeki arayüzlerin süreç içerisinde köprü görevi görerek ilgili kişiler arasındaki iletişimi kolaylaştırabileceği belirtilmektedir. Bu durumun da ilaç güvenliği sürecininin desteklenmesine ve yapılandırılmasına yardımcı olabileceği bildirilmektedir.[9] Almanya, İsviçre ve Avusturya gibi pek çok ülke, ulusal düzeyde ilaç güvenliğini artırmak için e-sağlık teknolojilerine odaklanmaktadır.[6]

E-sağlık teknolojileri, daha güvenli ilaç tedavisine yönelik en umut verici adımlardan biri olarak tanıtılmaktadır. Bu teknolojiler, ilgili kurumlar ile sağlık bakım arayüzleri arasında standardizasyon ve bilgi alışverişi için bir platform sunmaktadır. Platform, süreç içi kontrolleri ve çift kontrolleri kolaylaştırmakta, süreçlerin yeniden yapılanmasına ve sağlık progfesyonellerini çalışmaları sırasında desteklemeye yardımcı olmaktadır.[9] Bununla birlikte e-sağlık teknolojileri için sistemlerin tasarlanması ve sağlık hizmetlerine uygulanması aşamalarında çeşitli zorluklar bulunmaktadır. Bilindiği gibi sağlık hizmetleri alanında doğası gereği farklı ilgi alanları, beklentileri ve öncelikleri bulunan birçok kurum ve aktör vardır. Bu durum zaten karmaşık tasarımlara sahip olan e-sağlık sitemlerinin hayata geçirilmeleri aşamasında yenilikçi yaklaşımların kullanılmasını zorunlu kılmaktadır.[8] E-sağlık teknolojilerinin yaygın olarak kullanıldığı ya da yeni kullanılmaya başlandığı ülkelerin deneyimleri bu konuda yol gösterici niteliktedir. Örneğin Almanya, İsviçre ve Avusturya'da yeni uygulanmaya başlayan ulusal e-sağlık teknolojilerini analiz etmek ve karşılaştırmak amacıyla geniş kapsamlı bir çalışma yapılmıştır. Çalışma sonucunda her üç ülkenin de ilaç güvenliğini artırmaya odaklandığı ve ulusal e-sağlık çözümleri için karşılaştırılabilir hedefler formüle ettiği tespit edilmiştir. Yine her üç ülkenin sistem alt yapıları, kullanılan standartlar, sunulan işlevler ve katılım gönüllülük derecesi açısından e-sağlık sistemleri arasında farklılıklar bulunduğu belirtilmiştir. Ek olarak bu ülkelerin e-sağlık sistemlerinin uygulama sürecinin beklenenden daha yavaş ilerlediği bildirilmiştir. Sistemlerin yavaş gelişmesinin temel nedeninin ise başta hasta mahremiyeti ve güvenlik gereklilikleri olmak üzere yasa değişikliklerine duyulan ihtiyaç ve son olarak siyasi çıkarlar olduğu ifade edilmiştir.[6] Benzer şekilde İsveçte'de sağlık sisteminde yer alan paydaşlar arasında ilaç verilerinin bilgi akışını iyileştirmek ve ilaç yönetiminde hastayı desteklemek amacıyla 16 şirket ve 6 hastaneyi içeren geniş kapsamlı bir e-sağlık projesi planlanmıştır. Projede mevcut e-sağlık teknolojilerinden faydalanılarak gelecekte hastaların sağlık bakım süreçlerinin optimize edilmesini sağlayacak e-sağlık çözümlerinin geliştirilmesi amaçlanmıştır. Proje kapsamında planlanan e-sağlık çözümlerinin mevcut e-sağlık altyapısına tutarlı bir konseptte entegre edilmesi için mevcut altyapının özellikleri dikkatli bir biçimde incelenmiştir. Proje sonucunda mevcut ilaç listesini ve bir e-sağlık platformunu birleştiren bir konsept geliştirilmiştir. Bireysel olarak hastaların cep telefonlarına entegre edebilen, mevcut ilaç planlarına istedikleri herhangi bir zamanda erişebilmelerini sağlayan ve gerekirse mevcut ilaçları ile ilgili verileri de ilgili sağlık uzmanına sunabilen bir elektronik ilaç yönetimi asistanı (Electronic Medication Management Assistant - eMMA) tasarlanmıştır.[1] Bu tasarım, bağımsız bir dernek tarafından geliştirilmiş ve uygulamaya geçirilmiştir. Uygulama, ilaçlar ilgili dijital bir bilgi platformu ile mevcut durumda hastaların ilaç planları arasında bir köprü teknolojisini sağlamaktadır. "eMediplan" adı verilen bu uygulama; ilaç,

alerjiler ve risk faktörleri ile ilgili veriler sağlayan bir bilgi sistemine sahiptir. Uygulamadaki veriler istenildiği takdirde belge olarak da basılabilmektedir. Ayrıca basılı belgede yer alan bir QR kodu ile ilgili verilerin başka bir bilgi sistemine aktarılmasını da mümkündür. Bu ise sağlık profesyonellerinin hastanın mevcut ve güncel ilaç planına kolaylıkla erişebilmelerini sağlamaktadır.[10] Bununla birlikte sistemlerin uygulanması için çeşitli engellerin aşılması gerektiği belirtilmektedir. Bölgesel ve ulusal ölçekli olarak projelendirilen tüm e-sağlık sistemlerinin tasarlanması, inşa edilmesi ve uygulanması sürecinde farklı perspektiflerle ele alınması gereken bir takım zorluklar ve çeşitli sorunlar vardır.[8] Bu sorular arasında hastaların ilaç planlarının mevcut e-sağlık platformu ile nasıl ilişkilendirilebileceği ve tüm sağlık hizmeti sunucularının bu platformdan nasıl faydalanabileceğine ilişkin teknik konular yer almaktadır.[1] Sistemlerin uygulama aşamasında da teknik olmayan çeşitli engeller olduğu bildirilmektedir. Örneğin Isviçre'de hayata geçirilen e-sağlık sisteminin hedefleri ve potansiyel faydaları üzerinde paydaşlar arasında yaygın bir fikir birliği vardır. Ancak sistemin uygulama aşamasında çoğunlukla teknik olmayan birçok konu gündeme getirilmiştir. E-sağlık sistemlerinin paydaşlar arasında düzenli bir bilgi alışverişinden kaynaklanan şeffaflığı, bakımın sürekliliğini, kalitesini ve verimliliğini artırdığı açıktır. Bununla birlikte sağlık profesyonellerinin ve hastaların alışkanlıkları göz önüne alındığında bu yeni uygulamaların bir gerilim ortaya çıkarabileceği de belirtilmektedir. Gerilimin ortadan kaldırılması için paydaşlar arasında güven oluşturulmasının önemine dikkat çekilmiştir.[8] Ek olarak e-sağlık sistemlerinin ulusal ilaç güvenliğine yönelik de öncelikli bir hedef olduğu vurgulanarak ulusal ilaç listelerinin oluşturulmasının bu sistemler için temel gereklilik olduğu ifade edilmektedir. [6]

Yapılan araştırmalar sonucunda mevcut ve olası tüm sorunlara rağmen e-sağlık sistemlerinin potansiyel faydaları ortaya konulmuştur.[8] Ancak potansiyel faydalarına rağmen bu sistemlerin ulusal bir ilaç listesi oluşturmak için tek başına yeterli olmadığı bildirilmektedir. Ulusal bir ilaç listesi elde edilmesi için ilaç dağıtımının tüm aşamalarındaki bilgilere sahip olunması ve bu bilgilerin de ulusal ölçekte toplanması gerekmektedir. Ulusal bir e-reçete sistemi, kapsamlı bir ilaç listesi oluşturulması için önemli adımdır. Bununla birlikte pek çok ülkenin kapsamlı bir e-sağlık sistemi ya da stratejisi olmasına rağmen bazı ülkelerin hâlâ e-reçete sistemini kullanmadığı bilinmektedir.[6]

E-Reçete ve E-Reçete Sistemlerini Kullanan Ülkeler

Yakın zamana kadar birçok sağlık kurumunda ilaçların manuel olarak hazırlanmış dosyalar üzerinden reçete edilmesinin ve hastalara dağıtılmasının yaygın olarak uygulandığı bilinmektedir. Bu uygulama hemen hemen tüm sağlık kurumlarında sıklıkla benzer süreçleri içermektedir. Doktorlar ilaçları manuel bir ilaç tablosuna/çizelgesine doğrudan yazmaktadır. Daha sonra hemşireler (ya da görevli sağlık personeli) tarafından bu ilaç çizelgeleri gözden geçirilmekte olup uygun ilacın, uygun dozda ve doğru yolla hastalara verilmesi sağlanmaktadır. Bununla birlikte, artık ilaçların reçete edilmesinde yaygın olarak elektronik reçeteleme (e-reçete) sistemleri kullanılmaya başlanmıştır. Bu sistemler çeşitli öğeleri içeren bir ilaç bilgisi veritabanı üzerinden hekimlerin ilaçları reçete etmesini sağlamaktadır.[2,11]

E-reçete, özel yazılımlar sayesinde manuel reçetelerin tüm format bilgilerinin elekronik ortamda kaydedilmiş hali olarak tanımlanmaktadır. E-reçeteler, manuel reçetelerde bulunan ve aynı ilaç bilgilerini sağlayan otomatik bir sistemde oluşturulmakta olup hekim ve eczacılar arasında elektronik ortamda doğrudan bir iletişim kurulmasını sağlamaktadır.[12,13] Kısaca e-reçete sistemi ile kağıt tabanlı reçete süreci ortadan kalkmakta, doktorun yazdığı reçete bir eczanenin sistemine gönderilen e-reçete olarak şekil değiştirmektedir. Bu reçete yazma bilgilerinin ulusal bir e-reçete veritabanı aracılığıyla sunulması da bir hastanın ilaç öyküsünün temelini oluşturmaktadır.[6] Bu

kapsamda e-reçetelerin kullanımı sağlık kayıt defterleri ve sevk kağıtları gibi yazılı belgelere olan ihtiyacı ortadan kaldırırken, bir hastanın kimliğini doğrulayabilen tüm prosedürlerin elektronik ortamda yürütülmesini sağlamaktadır.[14] E-reçetede reçete tarihi, türü (normal, kırmızı, mor vb.), alt türü (ayaktan, yatan, günübirlik, acil vb.) başta olmak üzere ilgili ilaç(lar)ın adı, kutu adedi, dozu, periyodu, şekli ve ilaçlarla ilgili tüm alt açıklamalar detaylı olarak yer almaktadır.[12,15]

Birçok ülkenin kendi ulusal sağlık sistemlerini kapsayacak şekilde e-reçete sistemlerini kullandığı bildirilmektedir.[2] Benzer şekilde birçok ülkenin de belirli bir hastanın reçete edilen ve dağıtılmış ilaçlarının doğru ve güncel bir listesini sağlamayı amaçlayan ulusal e-reçeteleme stratejileri oluşturmaya çalıştığı ya da ulusal e-reçete sistemine geçmek için gerekli adımları attığı ifade edilmektedir. Örneğin 2016 yılında İsviçre, Almanya ve Avusturya'nın ulusal bir e-reçete sistemi kurmak için planlamalar yaptığı açıkça bildirilmiştir.[6] Bilindiği gibi Avrupa Birliği'ne (AB) üye ülkelerin sağlık sistemlerinin hem birlikte çalışabilirliği hem de sınır ötesi hasta hakları direktifi (Directive 2011/24/EU, 2011) kapsamında e-sağlık konusu öncelikli konular arasında yer almaktadır. Özellikle ülke sağlık sistemleri arasındaki uyumun sağlanması gerektiğini belirten Avrupa e-sağlık bölgesi için eylem planı kapsamında da e-reçete uygulaması en önemli uygulamalardan biri olarak görülmektedir.[16] Hırvatistan, AB ülkeleri arasında son on yıl içerisinde e-reçete sisteminde yüksek başarı yakalayan ülkelerden biridir.[17] Benzer şekilde AB ülkeleri arasında yer alan Danimarka (1989), İsveç (1999), Estonya (2005) ve İzlanda (2007) ulusal e-reçete sistemlerini ilk uygulayan ülkelerdendir.[18–21] Bununla birlikte ulusal ölçekte e-reçete sisteminin uygulanması ile ilgili süreç bazı Avrupa ülkelerinde nispeten daha yavaş ilerlemektedir.

Bilindiği gibi İsviçre dünya genelinde e-reçete sisteminin ilk kullanıldığı ülkelerden (2005 yılından itibaren) biridir.[22] Ülkede e-reçete sistemi yaygın olarak kullanılmaktadır.[1] İsviçre'de hastaların ilaç bilgilerine elektronik ortamda erişmek ve muhtemel ilaç hataların önlemek için e-medication uygulaması 2016 yılında başlatılmıştır. Uygulama e-reçete sistemini, elektronik ilaç listesini ve ilaç dağıtımını kaspamaktadır.[6] Daha önce bahsedildiği gibi İsviçre'de e-reçete sistemine hastaların ilaç listelerine/planlarının entegre edilmesini sağlamak amacıyla 2016 yılında yapılan proje kapsamında bir elektronik ilaç yönetim asistanı tasarlanmıştır. Hastaların ilacı ve ilaçlarıyla ilgili bilgilere erişebilmeleri için asistana bir konuşma arayüzü eklenmiştir. Asistan, hastaların kişisel cep telefonlarında ilacı/ilaçları ile ilgili tüm verilere sahip olmasını sağlayan bir köprü görevi üstlenmiştir. Asistanın (gelecekte ihtiyaç olması durumunda) İsviçre'nin e-sağlık platformu olan e-toile'la tutarlı bir konseptle entegre edilmesini sağlayacak şekilde tasarlanmasına dikkat edilmiştir. Bunun için mevcut alt yapı olanakları göz önüne alınmıştır.[1] Tüm bu çalışmalara rağmen İsviçre'de ulusal düzeyde bir ilaç listesinin oluşturulmasına yönelik mevzuat uzun bir süre sonunda (1 Mayıs 2021) oluşturulmuştur [22]. Yakın zamanda da ulusal e-reçete sisteminin geliştirilmesi amacıyla pilot bir uygulama gerçekleştirilmiştir. Sistemin daha önce bahsi geçen "eMediplan" uygulamasına koordine edilmesi ve uyumlaştırılması için de çalışmalar yapıldığı bildirilmiştir.[23] İsviçre'nin e-reçete sistemi elektronik tıbbi kayıtlar ve eczane ilaç bilgi sistemi gibi pek çok sisteme entegre karmaşık bir yapıya sahiptir.[22] Sağlık alanında başarılı ülkelerden biri olarak gösterilmesine rağmen sağlık sisteminin parçalı yapısı, özel ve kamu sağlık kuruluşları arasındaki etkileşimlerin karmaşık olması nedeni ile e-sağlık sistemlerinin uygulanması açısından İsviçre'nin diğer birçok gelişmiş ülke kadar elverişli olmadığı belirtilmektedir.[8] İsviçre'de yakın zamanda ulusal e-reçete sisteminin ulusal ilaç veri tabanı ile koordinasyon eksikliğinin büyük ölçekli hatalara neden olduğunun bildirilmesi de durumu doğrular niteliktedir.[22] Ayrıca

İsviçre'de ulusal e-reçete sistemindeki aksaklıkların hâlâ devam ettiği bilinmektedir. Şubat 2023 itibari ile ulusal ölçekte e-reçete sisteminde yaşanan problem nedeni ile hizmet sürecinde aksamaların meydana geldiği belirtilmiştir.[24] Avrupa ülkeleri arasında yer alan Almanya'da da hastalara güncel ilaç listelerini sunmak için başlatılan ilk girişim "Medikationsplan"dır. Medikationsplan (eMP), pilot uygulama olarak 2015 yılında başlatılmıştır. Uygulama, en az üç farklı ilaç kullanan hastaların ilaç bilgilerinin yer aldığı bir ilaç planını ifade etmektedir. Bu uygulamada hekimin hastaya yazdığı ilaç bilgilerinin olduğu kağıt bazlı bir tablo verilmektedir. Bu tabloda yer alan bilgilere barkod okuyucular sayesinde eczacı, aile hekimi ve uzman hekim gibi hastanın güncel ilaç planına ihtiyaç duyan herkes erişebilmektedir. Uzun vadede hastaların mevcut ilaç planlarının elektronik sağlık kayıtlarına (electronic health record-EHR) eklenmesi söz konusudur. Bunun gerçekleşmesi ile barkodlu sisteme gerek kalmayacağı belirtilmektedir.[6] EMP uygulamasının hayata geçirilmesinde yaklaşık 6 yıl sonra (2021 yılında) Almanya'da pilot uygulama ile e-reçete sistemi başlatılmıştır.[25] E-reçete sistemine geçiş sürecinin başlatılmasının ardından 2022 yılı şubat ayında eMP ile e-reçete sistemi arasında da bağlantı kurulmuştur.[26] Ancak gerekli teknolojik alt yapının henüz mevcut olmaması sebebi ile ulusal çaptaki uygulama başlangıçta 1 Ocak 2023 tarihine ertelenmiş olup sonraki süreçte ise sistemin zorunlu hale getirilmesinin süresiz olarak ertelendiği bildirilmiştir.[25] Bununla birlikte yakın zamanda Almanya'da 2023 yılından itibaren diş muayenelerinde ve hastanelerde e-reçete uygulamasının "e-rezept" aplikasyonu ile başlatıldığı, sistemin 2024 yılında tüm ülkede uygulamasının zorunlu hale getirilmesine yönelik planlamaların yapıldığı tespit edilmiştir.[27]

Avrupa ülkeleri dışında da e-reçete sistemlerini yaygın olarak kullanan ülkeler vardır. Bu kapsamda Avustralya e-reçete kullanımında öncü ülkeler arasında yer almaktadır. Ülkedeki hastanelerin çoğu e-reçete sistemlerine sahiptir.[11] Ancak e-reçete sisteminin kullanımının ülke çapındaki tüm hastanelerde yaygınlaştırılması için çalışmalar geç ilerlemiştir. Bu kapsamda Avustralya'da 2019 yılında elektronik ilaç yönetim sisteminin ve standartlarının belirlendiği bir politika direktifi kabul edilmiştir. Direktife uyum konusu tüm kamu sağlık kurumları için zorunlu hale getirilmiştir. İlaçların reçete edilmesi ve eczacı tarafından dağıtılması için kullanılan eMeds sisteminin tüm durumlarda karşılaması gereken standartlar açıklanmıştır. EMeds sistemini kullanan tüm kamu sağlık kurulumlarının 2020 yılı ocak ayı sonuna kadar tüm kriteler ile ilave gereklilikleri sağlamaları talep edilmiştir.[28] Avustralya'da 2022 yılı itibari ile e-reçete sisteminin uygulaması ülke çapında yaygınlaşmıştır. Ancak tamamıyle ulusal çapta zorunlu e-reçete sistemine geçilememiştir. E-reçetelerin hâlâ kağıt reçetelere alternatif olarak kullanılması için seçenekler mevcuttur.[29]

Avrupa ülkeleri dışında e-reçete sisteminin kullanıldığı ülkelerden bir diğeri de ABD'dir. ABD'de Medicare ve Medicaid uygulamaları kapsamında reçetelerin elektronik ortamlara aktarılması teşvik edilmiştir. 2008 yılında reçetelerin %70'i elektronik ortama aktarılmış olup 2014 yılından beri tüm eyelatlerde e-reçete kullanmaktadır.[30] Türkiye'de e-reçete sistemini kullanan ülkeler arasında yer almaktadır.[14] Türkiye'de e-reçete sistemine yasal olarak 1 Temmuz 2012 tarihinde geçilmiş olup 2012 yılı sonunda tüm reçetelerin %56'sının elektronik ortama aktarıldığı bildirilmiştir.[31] Türkiye'de reçetelerin elektronik ortama aktarılmasında "Medula" adı verilen sistem kullanılmaktadır. Medula sistemine kaydedilerek numaralandırılan reçeteler de, e-reçete olarak tanımlanmaktadır. E-reçete, yazılım altyapısı ile manuel reçetenin formatındaki tüm bilgileri elektronik ortamda Medula sistemine kaydetmektedir. Medula, Sosyal Güvenlik Kurumu (SGK) ve sağlık hizmeti sunucuları (hastaneler, eczaneler ve optikler) arasında entegre bir sistem olarak çalışmaktadır. Medula sisteminde elektronik ortamda ilacın/ilaçların hastaya reçete edilmesi, izlemi, dağıtımı ve geri ödenmesi

dahil tüm rutin işlemler kayıt altına alınarak yürütülmektedir.[12] Kısaca ilacın hekim tarafından hastaya reçete edilmesinden itibaren hastanın ilacını eczaneden almasına ve ilacın geri ödenmesine kadar geçen süreçte yer alan kişiler ve kurumlar arasındaki iletişim Medula ile elektronik ortamda sağlanmaktadır. Bu sayede e-reçeteler aracılığıyla SGK, elektronik ortamdaki tüm bilgileri kontrol edebilmekte ve verileri istatistiksel olarak sınıflandırabilmektedir.[14]

E-reçetelerin düzenlemesi ilki fiziksel ve ikincisi hastane tarafından gerçekleştirilen iki temel aşamadan oluşmaktadır. İlk aşama, manuel reçete yazma eylemine benzemektedir. Hastane tarafından başvuru aşamasında her hastaya bir Medula takip numarası verilmekte olup bu sırada da hastalardan bazı bilgiler alınmaktadır. Bu aşamadan itibaren elde edilen tüm bilgiler e-reçeteye otomatik olarak eklenmektedir. Yazılım altyapısı ile sağlanan iletim ağları ile SGK, sağlık kuruluşları, eczaneler, optikler ile ilgili tüm kişi ve kurumlar yetkileri çerçevesinde reçete bilgilerine erişmektedir. Bazı istisnai durumlar (kişiye özel ithal getirilen ilaç gibi) ve yerler (kamu bünyesindeki kurum hekimlikleri gibi) dışında Türkiye'de e-reçete uygulaması tamamen zorunlu olup yapılan araştırmalar sonucunda Türkiye'de e-reçete uygulamasının hekimlere hem reçete yazımında hem de düzeltmede kolaylık sağladığı ve zaman kazandırdığı ortaya konulmuştur.[12,14,32.] Nitekim e-reçete uygulaması Türkiye'de sağlıkta değişim ve dönüşümün de en önemli kilometre taşlarından biri olarak görülmektedir. E-reçete sisteminin hız, kolaylık, doğruluk gibi pek çok açıdan SGK'ya, sağlık kuruluşlarına, eczanelere, hastaya önemli avantajlar sağladığı bildirilmiştir.[12] Türkiye'de tüm hastaneler (kamu hastaneleri, özel hastaneler ile kamu ve vakıf üniversite hastaneleri) zorunlu e-reçete uygulaması kapsamındadır. Bu kapsamda Türkiye'deki hatanelerde e-reçete sisteminin kullanılmasının, manuel reçete yazımından kaynaklanan olası tüm ilaç hatalarını azalttığı, ilaç ve hasta güvenliğinin açısından da potansiyel olarak fayda sağladığı ifade edilebilir.

E-Reçete Sistemlerinin Mevcut ve Potansiyel Faydaları

Bilindiği gibi elektronik ilaç yönetim sistemlerinin (Electronic Medication Management – EMMS) hayata geçirilmesi ile kağıt üzerindeki ilaç çizelgelerinin yerini e-reçeteler almıştır. Reçetelerin elektronik olarak hekimler, eczaneler ve hastane yönetimleri tarafından incelenmesine izin veren e-reçete sistemleri, bilgisayar uygulamaları aracılığıyla ilaç kullanımlarının takibini mümkün kılmıştır. Bu sayede kolay erişilebilir bir ilaç yönetim kaydı sağlamıştır. E-reçeteler hastaların devam eden bakım süreçlerinde ilaç geçmişlerine ilişkin bilgilere kolay erişim imkanı sunarken sistemde bulunan veriler ve raporlar, ilaç kullanımlarının ve siparişlerinin denetlenmesini mümkün hale getirmiştir.[11,33] Nitekim tüm süreçlerin elektronik ortamda gerçekleşmesi sayesinde e-reçetelerin izlemi, geri bildirimi ve denetlenmesi daha kolaydır. Yazılı belge akışını azaltması sayesinde evrak oluşturma ve arşivleme işleri de azalmıştır. Düzenlendiği kurumlar ve ülkeler arasında farklı özellikler göstermesine rağmen dinamik özelliği sayesinde e-reçetenin elektronik ortamdaki entegrasyonu ve adaptasyonu kolaydır. Özel yazılımlarla (ilaç uyarıları sağlayan) desteklendiği için risk yönetim planlarına da kolayca uyum sağlamaktadır.[12]

E-reçete sistemleri belirli durumlar için standartlaştırılmış reçete yazma protokolleri içermektedir. Bölgesel çaplı sistemler sayesinde de ilaç tedarik durumu geniş kapsamlı olarak izlenebilmektedir. İlaç tedarikinde sorun olmaması için sistemlerde alternatif durumlar için verilen uyarılar ve önerilerle sürecin koordine edilmesi de mümkündür.[33] E-reçete sisteminin uygulanmasının geri ödeme kurumu, hekim, eczacı, sağlık kurumu, hasta ve ilgili tüm kişiler ile kurumlara çeşitli faydalar sağladığı belirtilmektedir. Hekimlerin işini kolaylaştırması, eczanelerdeki bürokratik işlemlerin azaltılması, geri ödeme kurumun ödeme işlem ve süreçlerini hızlandırması, e-

reçetelerin format ve yazımlarının standartlaştırılması sayesinde reçete yazımından kaynaklı ilaç hatalarının (ilaç adı, doz, miktar gibi) azaltılması/önlenmesi ve akılcı ilaç kullanımına katkı sağlaması gibi pek çok faydası vardır.[12] Özellikle otomatik ilaç dağıtımı, barkodlu hasta tanımlama ve elektronik ilaç yönetim kaydı (Electronic Medication Administration Record – eMAR) sistemleri ile koordineli çalışan e-reçete sistemi, ilaç uygulama ve reçete hatalarını önemli ölçüde azaltmaktadır.[34] Ek olarak e-reçete sistemlerinden elde edilen verilerin farmakolojik/epidemiyolojik çalışmalarda kullanılma imkanı da bulunmaktadır.[12] E-reçete sistemlerini kullanmanın ana faydalarından bir diğeri de yazılımların reçetelerin genel okunabilirliği iyileştirmesidir. Net olarak yazılmış bir reçete, yorumlama hatalarını azaltır. E-reçeteyi inceleyen veya yöneten kişilerin okunaksız el yazısını ve hataya açık olan kısaltmaları anlaması gerekmez. E-reçeteleme, yaygın olarak kullanılan dozları belirleyebildiği için dozlama hatası riskini de azaltır. Yazılım, reçete yazanları daha yaygın dozları kullanmaya yönlendirdiğinden, potansiyel olarak tehlikeli olan doz hataları en aza indirilir.[33] Yapılan çalışma sonuçlarında da e-reçete sistemlerinin ciddi sayılabilecek ilaç hatalarını azalttığı ortaya konulmuştur.[2]

E-reçetelerde yer alan kapsamlı bilgiler ve otomatik süreçler sayesinde eczanelerde yapılan bürokratik işlemlerin de yaklaşık yirmi beşten yediye düştüğü bildirilmiştir.[12] E-reçete sistemi, insan hatalarının en aza indirilmesi, hasta ve sağlık çalışanına zaman kazandırılması, hasta takibinin iyileştirilmesi, sağlık giderlerinin düşürülmesi, gereksiz ilaç kullanımının kontrol altına alınması, muayene kolaylığının artırılması ve olası suistimallerin önlenmesi gibi birçok fayda sağlamaktadır.[14] Ayrıca e-reçete sistemlerinin uygulanmasının özellikle eksik, yasadışı veya belirsiz ilaç reçete etmedeki hataların sayısını azalttığı bunun da sağlık kurumlarındaki ilaç hatalarının oranlarını önemli ölçüde azalttığı bildirilmektedir.[2] Buna ek olarak e-reçete uygulamasına geçmeden önce herhangi bir sağlık kurumu veya hekimin bir hasta hakkında bilgi edinmesi ve kanuna aykırı reçete yazabilmesi mümkünken e-reçete ve kimlik doğrulama sistemlerinin birlikte kullanılması sayesinde hekimin bilgisi ve kontrolü dışında reçete yazılması gibi reçete tahrifatı/sahte reçete düzenleme olasılığı azalmış ve bu durumdan kaynaklı sorunların önüne geçilmesinin mümkün hale gelmiştir.[12,14] E-reçeteler tasarım ve kurulum aşamalarında yüksek maliyetli olmalarına rağmen e-reçete kullanımının kağıt ve işlem maliyetlerini azalttığı, hekimlere kolaylık sağladığı ve zaman kazandırdığı araştırma sonuçlarında yer almaktadır.[2,32] E-reçetelerin zaman kazandırıcı ve iş kolaylaştırıcı faydasının yanında hekimler ve eczaneler arasında çelişki yaşanmasına neden olabilecek durumların olasılığını da azaltabileceği belirtilmektedir.[14] Mevcut ve potansiyel faydalarına rağmen e-reçete sistemleri kusursuz işleyen ve reçete hatalarını tamamen ortadan kaldıran sistemler değildir. E-reçete sistemlerinde yazılımsal, teknik ve sistemi kullanan personelin yetersiz bilgi ve tecrübesinden kaynaklanan sorunlar yaşanması muhtemeldir.

E-Reçete Sistemlerindeki Mevcut ve Muhtemel Sorunlar

E-reçete sistemlerinde verilerin kayıt altına alındığı elektronik ortamdan kaynaklanan veri/bilgi güvenliği ve uyum (sistemi kullanmaya ve tedaviye) sorunları ile karşılaşılabilmektedir. Özellikle hastaların tedaviye uyumunun azalması, hekime ve sisteme güvensizlik yaşanması, hasta mahremiyeti kaynaklı problemlerin ortaya çıkması muhtemel görünmektedir. Bu nedenle e-reçetelerin adli ve etik çeşitli sorunlar ortaya çıkarabilecek birçok uzantısının göz önüne alınması ve gereken tedbirlerin hızlıca uygulanması önerilmektedir. E-reçete sistemi gibi tüm elektronik yazılımların ekonomik maliyetleri (ilk kurulum, teknik bakım, güncelleme) vardır. Bu durum nedeniyle ekonomik kaynaklı çeşitli olumsuzlukların yaşanması da muhtemeldir.[12] Ancak e-reçetelerin potansiyel faydaları kısmında değinildiği gibi

bu sistemlerin kullanımının işlem ve kağıt maliyetlerini azalttığı bildirilmiştir.[32]

E-reçetelelerle ilgili önemli sorunlardan bir diğerinin de bu sistemlerinin kullanımı ile ilgili olduğu belirtilmektedir.[14] E-reçete yazılımlarının reçete yazma sırasında esneklik sağlaması gerektiğinden tüm hataları engellemesinin mümkün olmadığı bilinmektedir. E-reçetelerin sistemlere kaydedilmesi ilaç siparişlerin standartlaştırılmasına ve sistemin klinik uyarılar sağlamasına yardımcı olabilir. Özellikle e-reçete sistemlerine hastaların alerji ve advers ilaç reaksiyon bilgilerinin kaydedilmesi ilaç alerjisi olan hastalara bu ilaçların reçete edilmesini önleyebilir. Alerjiler sisteme doğru bir şekilde girildiğinde yazılımlar reçeteyi yazan personele alerji detayları ile ilgili uyarı verir. Bununla birlikte sistemdeki gerekliliklere rağmen tüm hastaların alerjileri kaydedilmeyebilir ya da bazı alerjiler yanlış kaydedilebilir. Benzer şekilde bir başka sorun da kullanıcı hatası olarak sistemi kullanan hekimlerin yanlış bilgi girmesinin engellenememesidir. Örneğin hekim bir hasta için sisteme yanlışlıkla penisilin alerjisi için penisilamin alerjisi yazabilir.[33] Dolayısı ile e-reçete sürecinin sağlıklı bir şekilde yürütülebilmesi için reçeteleme sürecinde yer alan tüm kişilerin yeterli düzeyde bilgi sahibi olması önem taşımaktadır.[12] Bu durum sistemi kullanan personelin dikkati, becerisi ve bilgisi ile ilgili olup e-reçete sistemlerinden kaynaklanan bir sorun değildir. Ancak e-reçete sistemlerinin kullanımına bağlı (kullanıcı hatasına bağlı) sorunların yaşanmasına neden olmaktadır.

E-reçete sistemlerinde kullanıcı hatasından kaynaklı sorunların kullanıcı eğitimleri ile potansiyel olarak düzeltilebileceği belirtilmektedir. Kullanıcı hataları dışında sistemden kaynaklanan hatalar da yaşanmakta olup bu durumun da endişeye neden olduğu belirtilmektedir.[2] E-reçete sistemlerinde ilaç alerjileri gibi ilaç etkileşimleri ile ilgili uyarılar verilmektedir. Ancak bazı e-reçete sistemlerde tespit edilen ilaç etkileşimleri aşırı kapsayıcı olabilir. Bu durumda önemsiz ya da düşük riskli potansiyel etkileşimlerin, yaşamı tehdit edecek riskteki etkileşimlerle aynı ya da benzer ölçüde uyarı vermesine neden olabilir. Daha açık bir ifade ile çok yaygın görülen ve önemsiz uyarıların sıklığı kullanıcıların önemli olanlar da dahil olmak üzere tüm uyarıları yok sayması için yönlendirebilir. Diğer bir sık görülen uyarı da aynı sınıftan iki ilacın aynı anda reçete edilmesi durumu olan terapötik duplikasyondur. Bu tür uyarıların kullanışlı olması büyük ölçüde terapötik sınıfların tanımlarına bağlıdır. Örneğin tüm kortikosteroidler aynı sınıfta yer alırsa inhaler astım tüpü kullanan bir hastaya akut alevlenme durumunda prednizolon reçete edildiğinde bu uyarı uygunsuz şekilde devreye girebilir. Ya da birden fazla antipsikotik ilacın reçete edilmesi ile ilgili bir uyarı diğer birimler için faydalı olabilirken ruh sağlığı birimindeki bir psikiyatristin reçete yazmasını engelleyici bir etkide olabilir. Bu durum sistemlerin geniş kapsamlı (bölgesel ve ulusal ölçekte) olması durumunda daha da karmaşık bir hal alabilir. Bazı ülkelerde sistemlerin tasarımında yazılım firmaları tarafından oluşturulan uyarıların klinik uzmanlar (hekim, eczacı vb.) tarafından belirlenen özel uyarılarla değiştirilmesi, düzenlenmesi, güncellenmesi ve bazı uyarılarında kaldırılması için çalışmalar yapılmaktadır. Ancak yeni ilaçların eklenmesi ve yeni tedavi protokollerinin geliştirilmesi göz önüne alındığında yeni ortaya çıkacak sorunların çözülmesi için bu çalışmaların devamlı ve sürekli olarak yapılması gerekmektedir.[33] Buna ek olarak yapılan çalışmalarda e-reçete sistemlerinin performanslarını artırmak için de sistemlerin sürekli olarak izlenmesi ve gerektiğinde yeniden tasarlanması önerilmektedir.[2]

E-Reçete Sistemleri İle İlgili Yapılan Çalışmalar

Literatürde e-reçete sistemlerinin değerlendirildiği çeşitli çalışmalar yer almaktadır. Bu çalışmalar arasında özellikle e-reçete sistemlerinin performansının, etkililiğinin, kullanımının ve sistemdeki olası sorunların incelendiği çalışmaların sonuçları önemli görülmektedir.

Türkiye'de e-reçete uygulamasını hasta, hekim ve eczane çalışanlarının gözünden değerlendirmek amacıyla nitel bir çalışma yapılmıştır. Çalışma sonunda e-reçete sisteminin hekimlere, eczacılara ve hastalara kolaylık sağladığı, zaman kazandırdığı ve memnuniyet oluşturduğu tespit edilmiştir. Ek olarak e-reçete sisteminin maliyeti azaltan bir uygulama olduğu bildirilmiştir. Bununla birlikte sistemsel ve teknik sorunlar ile ilaç bilgilerinin sisteme yanlış girilmesi gibi kullanıcıdan kaynaklı hataların zaman kaybı ve ilaçların alınamaması gibi olumsuz durumlara neden olduğu saptanmıştır. E-reçete sisteminin dinamik bir süreç olduğu göz önüne alınarak tespit edilen sorunlarla ilgili sürecin geliştirilmesi önerilmiştir.[32]

E-reçete sistemi ile ilgili pratik bilgiler sağlamak amacıyla da kapsamlı bir sistematik tarama çalışması yapılmıştır. Çalışma sonucunda hasta güvenliğini tehlikeye atan ve ilaç tedavisinin sonuçlarını olumsuz etkileyen kağıt reçete sistemi ile ilgili birçok sorunun olduğu tespit edilmiştir. E-reçete sistemleri, yazım hataları gibi kağıt bazlı reçetelerden kaynaklanan sorunların giderilmesi için temel bir çözüm olarak değerlendirilmiştir. Bu sebeple ülkelerin ulusal bazda e-reçete sistemlerinin uygulanmasını teşvik etmek için gerekli stratejileri geliştirmesi ve altyapıları sağlanması gerektiği bildirilmiştir.[35]

E-reçete sistemlerinin işçilik ve maliyetleri azaltmasına, kayıp, yasa dışı ve sahte reçete düzenlemeyi önlemesine rağmen Türkiye'de hekimlerin e-reçeteye bakış açısına ilişkin çok az araştırılma yapıldığı bildirilmiştir. Buradan hareketle literatürde Türkiye'deki hekimlerin e-reçetelere ilişkin algı ve inançlarını araştırmak amacıyla bir çalışma yapılmıştır. Çalışma sonucunda hekimlerin çoğunluğunun (%62) e-reçete sistemini desteklediği tespit edilmiştir. Ayrıca hekimlerin yarısına yakınının (%43) e-reçetelerin hasta güvenliğine (%43) olumlu katkıda bulunacağına inandığı belirlenmiştir.[14] Avustralya'da yapılan bir çalışmada bu sonucu doğrular niteliktedir. Çalışma sonucunda e-reçete uygulamasının hasta güvenliğini başta olmak üzere iletişimi ve hesap verebilirliği iyileştirdiği bildirilmiştir. Bununla birlikte bu uygulamaların hasta güvenliğine odaklanmayı sürdürürken etkileşimi artırmak için kullanılabilirliğinin de sürekli geliştirilmesi gerektiği bildirilmiştir.[33]

Amerika'da "Medicare ve Medicaid Elektronik Sağlık Kaydı (EHR) Teşvik Programı" kaspamında yapılan iyileştirmeler sonucunda hekimlerin e-reçete yazma oranlarındaki değişikliklerin, eczanelerin e-reçeteleri kabul etme oranlarının ve e-reçetelerin toplam hacminin incelenmesi amacıyla birçok eyaleti kapsayan bir araştırma yapılmıştır. Araştırmada programın iyileştirme hedeflerini karşılayıp karşılamadığı değerlendirilmiştir. EHR kullanarak e-reçete yazan hekimlerin oranının, Aralık 2008'de %7'iken Nisan 2014'te %70'e yükseldiği tespit edilmiştir. Aynı dönemde e-reçete kabul eden serbest eczanelerin oranının da %76'dan %96'ya yükseldiği belirlenmiştir. Hekimlerin e-reçete yazma ve eczanelerin e-reçeteleri kabul etme oranlarındaki artış ile birlikte elektronik ortamda kayıt altına alınan reçetelerinin hacminin 2008 yılında %3 iken 2013 yılında %57'ye ulaştığı belirlenmiştir.[30] Araştırma, e-reçete kullanımının hekimler ve eczacılar tarafından kabul edilebilirliğinin ortaya konulması açısından önemli sonuçlar içermektedir.

İsveç e-reçete sistemiyle ilgili mevcut sorunları belirlemek amacıyla bi araştırma yapılmıştır. Araştırma sonucuda e-reçete sistemlerinde güncelleme, veri depolama, yedekleme, yazılımın işlevselliği ve arayüz kullanımı ile ilgili çeşitli sorunlar olduğu tespit edilmiştir. Özellikle ağ sunucusunu yavaşlığı ve arızası ile ilgili erişim problemi yaşanması, aktif olarak reçetelerin iptal edilememesi, veri işleme hataları ve yazılım programlama hataları en yaygın hatalar olarak belirlenmiştir. Bu sorunlardan ve hatalardan kaynaklı olarak hastaların bakım yönetiminin olumsuz etkilenmesi, hasta bakımında gecikmeler yaşanması ve hastaların sağlığının ciddi şekilde bozulmasına neden olacak riskli durumların ortaya çıkması söz konusu olmuştur. Çalışma

e-reçete sistemiyle ilgili sorunlara ve hatalara ilişkin bir öngörü sağlaması açısından önemli görülmektedir.[22]

Görüldüğü gibi literatürde hem kağıt reçeteleme sistemlerindeki hataların[35] hem de e-reçete sistemlerindeki mevcut hataların ve sorunların ortaya konulmasına yönelik çalışmalar[22] olmasına rağmen hata oranları ve olası hataların reçete etme üzerindeki etkilerinin değerlendirildiği çok az çalışma bulunduğu belirtilmektedir. Buna ek olarak e-reçete sistemlerinin yeni hatalar getirebileceğine ilişkin endişeler olduğu da bildirilmektedir. Bu endişelere rağmen sistem tasarımı ve hatalar arasındaki etkileşimler hakkında çok az şey bilinmektedir. Buradan hareketle literatürde Avustralya'daki iki hastanede kullanılan iki farklı e-reçete sisteminin uygulanmasından önceki ve sonraki hata oranlarınının analiz edilmesi amacıyla bir çalışma yapılmıştır. Çalışmada hastaneleede e-reçete sistemlerini kullanmadan önce ve kullandıktan sonra meydana gelen klinik (yanlış ilaç ve yanlış doz gibi) ve prosedürel hataların (belirsiz, eksik ya da yasal olmayan ilaçların reçete edilmesi gibi) tespit edilmesi amaçlanmıştır. Bu amaçla retrospektif olarak manuel ilaç tabloları ile hastanelerin kullandığı e-reçete sistemleri incelenmiş olup önceki-sonraki hata oranları karşılaştırılmıştır. Araştırma sonucunda e-reçete sistemlerinin kullanılmasından sonra ciddi sayılabilecek ilaç hatalarının oranında önemli ölçüde azalma olduğu (%44) tespit edilmiştir. Bununla birlikte e-reçete sistemlerindeki hataların üçte birinden fazlasının (%35) sistem hatasından (örneğin olası bir ilaç seçiminde ilacın yanındaki açılır pencerede bulunan uygunsuz bir ilacın seçimi gibi) kaynaklandığı saptanmıştır. Bu sorunun temel nedeninin sistemlerin karar desteğindeki yetersizlikten kaynaklanabileceği öngörülmüştür. E-reçetelerin yazımında yeterli düzeyde klinik bilgi sağlayan bir CDSS kullanılmasının ilaç hatalarında önemli ölçüde azalma sağlayabileceği bildirilmiştir.[2]

SONUÇ VE ÖNERİLER

Hastaneler, yeni sağlık teknolojilerine sahip olma eğiliminin ve bu teknolojileri kullanma hevesinin yüksek olduğu kurumlardır. Özellikle sağlık bakım süreçlerini iyileştirdiği bildirilen teknolojik yenilikler ve sistemler sağlık politikaları açısından kısa sürede gündeme taşınmaktadır. 1990'lı yılların başında gündeme getirilen e-sağlık uygulamaları ile pek çok ülkenin sağlık sisteminde hızlı bir dönüşüm süreci başlamıştır. Hasta kayıtlarının elektronik ortamda kaydedilmesi, ulusal ilaç listelerinin ve ulusal e-reçete sistemlerinin oluşturulması gibi pek yeniliği içine alan e-sağlık dönüşümü, kısa sürede birçok ülkede hükümet politikası haline gelmiştir. İlaç yönetim sürecinde yenilik getiren e-reçete sistemi gibi pek çok elektronik sistem geliştirilmiş ve kullanılmaya başlamıştır.

E-reçete ve e-reçete sistemlerinin, ilaç hatalarının azaltılarak hasta ve ilaç güvenliğinin sağlanması başta olmak üzere maliyet ve zaman tasarrufu kazandırması, verimliliği artırması, sağlık bakım süreçlerinde kaliteyi yükseltmesi gibi potansiyel faydaları açısından kullanılmasının gerekli olduğu düşünülmektedir. Pek çok ülkede e-reçete sistemlerinin kullanımına yönelik sıklıkla gönüllü bazen de zorunlu uygulamaların yapıldığı bilinmektedir. E-reçete sistemleri gönüllü olarak belirli kurumlar (ilgili hastaneler, eczaneler vb.) özelinde tek başına kullanıldığı gibi geniş kapsamlı ya da ulusal çapta zorunlu olarak da uygulanabilir. E-reçete uygulamasında hastanın e-reçetesindeki bilgilere erişmek isteyen yetkili tüm kişiler ve kurumlar (tüm hastanelerin, eczanelerin, geri ödeme kurumlarının) ve bunların sistemleri birbirleri ile iletişim halindedir. Hekimler hastanın tedavisine uygun ilacı/ilaçları elektronik olarak sisteme girmektedir. E-reçete sisteminde hastaların ilaç geçmişi dahil gerekli tüm tıbbi ve klinik bilgileri yer almakta olup sistem ilgili kişi ve kurumların sistemleri ile entegre olarak çalışmaktadır. Hastalar manuel olarak

yazılmış kâğıt reçeteye ihtiyaç duymadan hekimin yazdığı ilaçları eczanelerden kolayca alabilmektedir. İlacın sigorta kapsamına uygun olarak ödemesi için de geri ödeme kurumlarının sistemlerine bilgiler otomatik olarak iletilmektedir. Bu bağlamda e-reçete sistemlerinin birbirleriyle iletişim kurabilecek şekilde tasarlanmasının önemli düşünülmektedir.

Bununla birlikte e-reçete sistemleri, sitemi kullanan kişi ve kurumların iletişimini sağlayacak şekilde tasarlanırken sistemin ilaç yönetim sürecini otomatikleştiren farklı elektronik sistemlerle de entegre olarak çalışması sağlanabilmektedir. Elektronik sistem olarak sadece e-reçete sisteminin olduğu durumda hekimler reçete yazarken manuel ilaç çizelgelerinin ve klinik tedavi kılavuzlarının yer aldığı dokümanlardan yardım alabilmektedir. Bununla birlikte özellikle hastalara zarar verme riski ve potansiyeli yüksek olan ilaçların reçete edilmesindeki hataların önlenmesi için e-reçete sistemleri ileri düzey CDSS'lere de entegre edilebilmektedir. Dolayısı ile e-reçete sistemleriyle entegre çalışan CDSS'lerin olduğu hastanelerde hekimler reçete yazarken her iki sistemi de kullanmaktadır. CDSS'ler e-reçete yazımı aşamasında hastaya, hastalıklara veya ilgili patojenlere özgü bilgiler, hatırlatıcılar ve çeşitli uyarılar sağlayarak hekimleri yönlendirmektedir. Hastanelerin diğer kurumlarla birlikte işleyişinde e-reçete sistemlerinin CDSS'lere entegre biçimde kullanıldığı gibi hastanelerin ilaç yönetimi açısından iç işleyiş süreçlerinde de birbirleriyle entegre olan elektronik sistemlerin kullanılması önerilmektedir.

E-reçete sistemi ile diğer elektronik sistemlerin kullanıldığı hastanelerde yatan hastalar için ilaç yönetim süreci şu şekilde ilerlemektedir:[36,37,38] İlk olarak yatan hastaların tedavisinde gerekli olan ilaçlar hekim tarafından reçete edilirken e-reçete sistemi kullanılmaktadır. E-reçete yazımında hekimin karar almasını destekleyen CDSS'ler de yine e-reçete sistemleri ile çalışmaktadır. Yatan hasta e-reçetesindeki ilaçlar için hastane eczanelerinden hekimlerin istemde bulunmasında ise bilgisayarlı ilaç sipariş giriş (computerized physician order entry – CPOE) sistemleri kullanılmaktadır. Hekimlerin ilaç istem sürecindeki hataların önlenmesi için de CPOE sistemlerinin ileri seviye CDSS'lere entegre edilmesi gerekmektedir. Ayrıca yine yatan hastaların ilaç istemine ilişkin bilgilerin elektronik ortamda kayıt altına alınmasında eMAR'ın kullanılması, ilacın hastaya uygulanması aşamasındaki olası hataların önlenmesi açısından faydalıdır. eMAR'ın, hem CPOE hem de hastanenin eczane bilgi sistemi ile çalışacak şekilde tasarlanması da istemde bulunulan ilaçların otomatik olarak hastalara dağıtılması açısından önemlidir. Hastanelerde otomatik ilaç dağıtım sistemlerinin barkodlu okuyucularla ya da radyo frekanslı tanımlama (Radio Frequency Identification – RFID) sistemleri ile kullanılması da ilacın hastaya uygulanmadan önce doğrulanması için son derece yararlı bir adımdır. Son olarak ilacın hastaya güvenli bir biçimde uygulanması aşamasının da elektronik olarak gerçekleştirildiği kapalı döngü ilaç uygulama sistemleri (Closed-Loop Medication System – CLMS) sayesinde hastanelerde ilaç yönetim sürecinin otomatikleştirilmesi mümkün hale gelmektedir.

Bu kapsamda hastanelerde ilacın hastaya reçete edilmesinden uygulanmasına kadar geçen bütün süreçlerin kesintisiz bir bilgi akışıyla ve uçtan uca elektronik olarak yürütülmesinin olası ilaç hatalarının önlenmesi açısından son derece faydalı olduğu düşünülmektedir. Bu kapsamda e-reçete ile entegre çalışan bu sistemlerin mevcut faydalarının göz önüne alınarak değerlendirildiği çalışmaların yapılmasına ihtiyaç vardır.

Hastanelerde kullanılan tüm elektronik sistemlerden olan e-reçete sistemlerinin mevcut ve potansiyel çok sayıda faydasının olduğu bildirilmiştir. Ancak nispeten yeni sayılabilecek bu sistemlerin mevcut ve potansiyel faydalarının yanında çeşitli riskler barındırabileceğinin göz önüne alınması önerilmektedir. Temelde bu sistemlerin daha tasarım aşamasındayken olası risklerinin dikkate alınması gerekmektedir. Sistemlerin

hatasız çalıştığından emin olunması için tasarım sürecinde sürekli test edilmesi, güncellemelere uygun olarak kullanılmasının sağlanması ve muhtemel olumsuz sonuçlarının önlenmesi için belirli standartların geliştirilmesi ve bu standartların benimsenmesinin teşvik edilmesi gerekmektedir.

E-reçetelerin ilaç ve hasta güvenliği başta olmak üzere iş akış süreçlerini nasıl etkilediğine dair de kapsamlı bir anlayış geliştirilmesine de ihtiyaç vardır. Bu bağlamda bu sistemleri geliştirenlerin, sistemi kullanan ilgili personelin (hekimler, eczacılar, sistem bakım ve yazılım personeli gibi) ve kurumların iş akış süreçleri üzerindeki etkilerinin değerlendirilmesine yönelik çalışmalar yapması önerilmektedir. Özellikle sistemlerin teknik alt yapısının belli aralıklarla kontrol edilmesi, varsa bu alandaki alt yapı eksikliklerin tespit edilmesi ve giderilmesi gerekmektedir. Elektronik sistemler elektronik ortamlarda kişisel sağlık kayıtları gibi hassas, gizliliğe ve hasta mahremiyetine konu olan çok büyük miktarda veriyi bünyesinde barındırmaktadır. Bu nedenle e-reçete gibi elektronik sistemlerin kullanımında veri güvenliği konusuna hassasiyetle yaklaşılmalıdır. Sistemlerin veri güvenliğini sağlayacak şekilde tasarlanmasının yanı sıra gelişebilecek güvenlik açıklarının tespit edilmesi için sürekli izlenmesi ve olası siber saldırılara karşı güçlendirilmesi gerekmektedir. Bu sistemlerde kişilerin sağlık verilerinin hukuka aykırı biçimde, ilgisiz ya da tehlikeli kişilerin/kurumların eline geçmesi durumunda ise kişsel sağlık verilerinin korunmasına yönelik mevcut mevzuat hükümlerine göre gerekli cezai yaptırımların uygulanması da son derece önemlidir. Kanunlar çerçevesinde uygulanacak cezai yaptırımların sağlık verilerinin korunması, izinsiz kullanımının ve paylaşımının engellenmesi noktasında önemli bir taahhüt sağlayacağı ortadadır. Bununla birlikte elektronik sistemler üzerinden kişilerin sağlık verilerine erişim hakkı olan ilgililerin de bu verileri sağlık hizmeti sunma amacı doğrultusunda ve tıbbi etik ilkelerle uyumlu olarak kullanması gerektiği göz önünde bulundurulmalıdır.

KAYNAKLAR

1. Tschanz, M, Lucas-Dorner, T. and Denecke K. (2017). "eMedication Meets eHealth with the Electronic Medication Management Assistant (eMMA)". In: D. HAYN and G. SCHREIER (Ed.), Health Informatics Meets eHealth (pp. 196–203). Studies in Health Technology and Informatics: IOS Press.
2. Westbrook, J.I, Reckmann, M, Li, L, Runciman, W.B, Burke, "R, Lo, C, Baysari, M.T, Braithwaite, J. and Day, R.O. (2012). Effects of Two Commercial Electronic Prescribing Systems on Prescribing Error Rates in Hospital In-Patients: A Before and After Study". PLOS Medicine, 9 (1), e1001164/1-11. https://doi.org/10.1371/JOURNAL.PMED.1001164
3. Avcı, K. (2014). "Sağlık Kurumlarında İlaç Hatalarının Engellenmesinde Teknoloji Kullanımı". Balıkesir Health Sciences Journal, 3 (3), 183–188. https://doi.org/10.5505/bsbd.2014.30602
4. Bates, D.W, Cullen, D.J, Laird, N, Petersen, L.A, Small, S.D, Servi, D, Laffel, G, Sweitzer, B.J, Shea, B.F. and Hallisey, R. (1995). "Incidence of adverse drug events and potential adverse drug events. Implications for prevention". ADE Prevention Study Group. JAMA, 274, 29–34.
5. Lampert, M.L, Kraehenbuehl, S. and Hug, B.L. (2008). "Drug-related problems: Evaluation of a classification system in the daily practice of a Swiss University Hospital". Pharmacy World and Science, 30 (6), 768–776. https://doi.org/10.1007/S11096-008-9213-8/TABLES/5
6. Gall, W, Aly, A.F, Sojer, R, Spahni, S. and Ammenwerth, E. (2016). "The national e-medication approaches in Germany, Switzerland and Austria: A structured comparison". International Journal of Medical Informatics, 93, 14–25. https://doi.org/10.1016/J.IJMEDINF.2016.05.009
7. Institute of Medicine. (2012). "Health IT and Patient Safety: Building Safer Systems for Better Care". Washinton DC: National Academies Press.
8. Geissbuhler, A. (2013). "Lessons learned implementing a regional health information exchange in Geneva as a pilot for the Swiss national eHealth strategy". International Journal of Medical Informatics, 82 (5), e118–e124. https://doi.org/10.1016/J.IJMEDINF.2012.11.002
9. Seidling, H.M, Kaltschmidt, J, Ammenwerth, E. ve Haefeli, W.E. (2013). "Medication safety through e-health technology: can we close the gaps?" British Journal of Clinical Pharmacology, 76 (S1), i–iv. https://doi.org/10.1111/BCP.12217
10. eMediplan. (2022). "Om Oss" Erişim adresi: https://emediplan.ch/ueber-uns/ (Erişim tarihi: 23 Ocak 2023).
11. Lo, C, Burke, R. and Westbrook, J.I. (2010). "Electronic Medication Management Systems' Influence on Hospital Pharmacists' Work Patterns". Journal of Pharmacy Practice and Research, 40 (2), 106–110. https://doi.org/10.1002/J.2055-2335.2010.TB00516.X
12. Akıcı, A. ve Altun, R. (2013). "Elektronik (e) reçete uygulaması ve akılcı ilaç kullanımına katkısı". Türkiye Aile Hekimliği Dergisi, 17 (3), 125–133. https://doi.org/10.2399/tahd.13.00003
13. ProHealth. (2017). "Sağlık Bilgi Teknolojisi (Sağlık BT)".

Erişim adresi: https://prohealthware.com/tr/health-information-technology-health-it/ (Erişim tarihi: 22 Ocak 2023).

14. Gider, Ö, Ocak, S. and Top, M. (2015). "Evaluation of Electronic Prescription Implications in Turkey: An Investigation of the Perceptions of Physicians". Worldviews on Evidence-Based Nursing, 12 (2), 88–97. https://doi.org/10.1111/WVN.12082

15. Sosyal Güvenlik Kurumu. (2012). "E-reçete Sık Sorulan Sorular". Erişim adresi: https://medeczane.sgk.gov.tr/doktor/erecetesss.pdf (Erişim tarihi: 03 Mart 2023).

16. European Parliament. (2011). Directive 2011/24/EU of the European Parliament and of the Council of 9 March 2011 on the application of patients' rights in cross-border healthcare, 2011.

17. Ericson. (2013). "eHealth week 2013: E-health Croatia 2013". Erişim adresi: https://www.ericsson.hr/en/20130510-ehealth-week-2013-e-health-croatia (Erişim tarihi: 2 Şubat 2023).

18. Bernstein, K, Jensen, H.B, Johansen, I. and Lehrmann, T. (1996). "National strategy for implementation of a health care network. The human facets". Studies in Health Technology and Informatics: Networking and Telemedicine, 34, 13–17. https://doi.org/10.3233/978-1-60750-878-6-13

19. Doupi, P, Renko, E, Giest, S, Heywood, J. and Dumortier, J. (2010). Country Brief: Estonia, Brussel Erişim adresi: https://www.ehealth-strategies.eu/database/documents/Estonia_CountryBrief_eHStrategies.pdf (Erişim tarihi: 30 Ocak 2023).

20. Iceland Review. (2007). "Electronic Prescriptions to be Used in Iceland". Erişim adresi: https://www.icelandreview.com/news/electronic-prescriptions-be-used-iceland/ (Erişim tarihi: 30 Ocak 2023).

21. Deetjen, U. (2016). "European E-Prescriptions: Benefits and Success Factors". Working Paper Series. Report No: 5. London: University of Oxford.

22. Rahman Jabin, M.S. and Hammar, T. (2022). "Issues with the Swedish e-prescribing system – An analysis of health information technology-related incident reports using an existing classification system". Digital Health, 8, 1–17. https://doi.org/10.1177/20552076221131139/FORMAT/EPUB

23. eMediplan. (2022). "eMediplan und E-Rezept Schweiz". Erişim adresi: https://emediplan.ch/emediplan-und-e-rezept-schweiz/ (Erişim tarihi: 23 Ocak 2023).

24. Ehälsomyndigheten. (2023). "E-hälsa underlättar vardagen". Erişim adresi: https://www.ehalsomyndigheten.se/privat/ (Erişim tarihi: 22 Şubat 2023).

25. World Law Group. (2022). "Germany: Mandatory e-Prescription Rollout Postponed". Erişim adresi: https://www.theworldlawgroup.com/news/germany-mandatory-e-prescription-rollout-postponed (Erişim tarihi: 25 Şubat 2023

26. Wolfgarten J. (2022). "Das E-Rezept im Entlassmanagement". EHEALTH. Erişim adresi: https://www.shop-apotheke.com/magazin/e-health/e-rezept/e-rezept-in-krankenhaeuser/ (Erişim tarihi: 21 Şubat 2023).

27. E-Rezept. (2023). "The e-prescription for Germany". Erişim adresi: https://www.das-e-rezept-fuer-deutschland.de/en (Erişim tarihi: 24 Şubat 2023).

28. NWS Government. (2019). "Electronic Medication Management System Governance and Standards". Politicy Directive. Erişim adresi: https://www1.health.nsw.gov.au/pds/ActivePDSDocuments/PD2019_050.pdf (Erişim tarihi: 20 Şubat 2023).

29. Department of Health and Aged Care. (2022). Electronic prescribing Erişim adresi: https://www.health.gov.au/our-work/electronic-prescribing (Erişim tarihi: 2 Şubat 2023)

30. Gabriel, H.M. and Swain M. (2014). "E-Prescribing Trends in the United States".; 2014. ONC Data Brief, No: 18. Washington DC: Office of the National Coordinator for Health Information Technology.

31. Sosyal Güvenlik Kurumu. (2013). "2012 Yılı Faaliyet Raporu". Strateji Geliştirme Daire Başkanlığı: Ankara.

32. Yiğit, E, Çetin, T, Keleşmehmet, H, Alsan, Ş. ve Uğur, H. (2019). "Elektronik reçete uygulaması hakkında kalitatif bir değerlendirme". The Journal of Turkish Family Physician, 10 (1), 2–17.

33. Pearce, R. and Whyte, I. (2018). "Electronic medication management: is it a silver bullet?" Australian Prescriber, 41 (2), 32-33. https://doi.org/10.18773/AUSTPRESCR.2018.012

34. Franklin, D.B, O'Grady, K, Donyai, P, Jacklin, A. and Barber N. (2007). "The impact of a closed-loop electronic prescribing and administration system on prescribing errors, administration errors and staff time: a before-and-after study". Quality & Safety Health Care, 16 (4), 279–84. https://doi.org/10.1136/qshc.2006.019497

35. Samadbeik, M., Ahmadi, M. and Hosseini Asanjan, S.M. (2013). "A Theoretical Approach to Electronic Prescription System: Lesson Learned from Literature Review". Iranian Red Crescent Medical Journal, 15 (10), 8436. https://doi.org/10.5812/IRCMJ.8436

36. Burkoski, V., Yoon, J., Solomon, S., Hall, T. N. T., Karas, A. B., Jarrett, S. R., & Collins, B. E. (2019). "Closed-Loop Medication System: Leveraging Technology to Elevate Safety". Nursing Leadership, 32(Special Issue), 16–28. https://doi.org/10.12927/CJNL.2019.25817

37. Lenderink, B. W. (2004). "Closing the loop of the medication use process using electronic medication administration registration". Pharmacy World and Science, 26, 185–190.

38. Öztürk, E. (2019). "Hastanelerde yatışlı servislerde kapalı döngü ilaç uygulamasının ilaç iade oranlarına etkisinin araştırılması". [Yüksek Lisans Tezi, s. 75]. İstanbul Medipol Üniversitesi Sağlık Bilimleri Ensititüsü Sağlık Yönetimi Anabilim Dalı: İstanbul.

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İklim Değişikliğine Uyum ve Afet Risk Yönetimi Bağlamında Bir Değerlendirme

An Evaluation in the Context of Climate Change Adaptation and Disaster Risk Management

Ayşe TAZEGÜL BEKCİ[1], Saime ŞAHİNÖZ[2]

ÖZ

İklim değişikliği, etkili uyum ve risk yönetimi stratejileri gerektiren ve giderek karmaşıklaşan bir sorundur. Bu sorun, ekosistemler ve insanlar üzerinde önemli etkilere neden olmaktadır. Örnek olarak; artan küresel sıcaklıklar, deniz seviyesinin yükselmesi ve aşırı hava olayları sayılabilmektedir. İklim değişikliğine uyum ve afet risk yönetiminin entegrasyonu, bu riskleri azaltmak ve sürdürülebilir kalkınma hedeflerine ulaşmak için çok önemlidir. Bu makale, iklim değişikliğine uyum konusunu gözden geçirmekte, iklim değişikliğine uyum ve afet risk yönetimi arasındaki ilişkiyi incelemekte, dirençli ve sürdürülebilir kalkınma için bir değerlendirme sunmaktadır. İklim değişikliğine uyumun, afet risk yönetiminin bir alt kümesi olmadığını, kapsam ve odaklanma açısından benzerlik ve farklılıkları olduğunu, afet ve iklim değişikliği risklerini azaltmak için, yönetişim mekanizmalarının iklim değişikliğine uyum ve afet risk yönetimini entegre edecek şekilde dönüştürülmesi gerektiğini vurgulamaktadır.

Anahtar Kelimeler: Afet Risk Yönetimi, İklim Değişikliğine Uyum, Sürdürülebilir Kalkınma.

ABSTRACT

Climate change is an increasingly complex challenge that requires effective adaptation and risk management strategies. This problem causes significant impacts on ecosystems and people. Examples include rising global temperatures, sea level rise and extreme weather events. Integration of climate change adaptation and disaster risk management is crucial to reduce these risks and achieve sustainable development goals. This paper reviews the issue of climate change adaptation, examines the relationship between climate change adaptation and disaster risk management, and provides an assessment for resilient and sustainable development. It emphasizes that climate change adaptation is not a subset of disaster risk management, that there are similarities and differences in scope and focus, and that governance mechanisms need to be transformed to integrate climate change adaptation and disaster risk management in order to reduce disaster and climate change risks.

Keywords: Disaster Risk Management, Climate Change Adaptation, Sustainable Development.

[1] Ayşe TAZEGÜL BEKCİ, Afet Yönetimi, Türk Kızılay Afet Yönetimi ve İklim Değişikliği Genel Müdürlüğü, aysetazegul01@gmail.com, ORCID: 0000-0003-3382-9336
[2] Prof. Dr., Saime ŞAHİNÖZ, Halk Sağlığı, Ordu Üniversitesi Tıp Fakültesi Dahili Tıp Bilimleri Bölümü Halk Sağlığı Anabilim Dalı, drsaime@hotmail.com, ORCID: 0000-0003-0915-9344

İletişim / Corresponding Author: Ayşe TAZEGÜL BEKCİ
e-posta/e-mail: aysetazegul01@gmail.com

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GİRİŞ

İklim değişikliği, fırtınalar, kuraklıklar ve gıda kıtlığı gibi doğa kaynaklı afetlerde artışa yol açan, içinde bulunduğumuz yüzyılın önemli ve küresel bir sorunudur.[1-4] Bu durum, hem iklim değişikliğine uyum hem de afet risk yönetimine yönelik kapsamlı yaklaşımlara duyulan ihtiyacın önemini ortaya çıkarmaktadır. İklim değişikliğinin etkileri çeşitlidir ve bu etkiler kentsel topluluklar, altyapı, gıda güvenliği, su kaynakları, ekonomik sistemler ve ekosistemler için risk oluşturmaktadır.[5] İklim değişikliğine uyum, sosyoekonomik sistemlerin iklim üzerindeki uzun vadeli değişikliklere ve aşırı hava olaylarının meydana gelmesine karşı kırılganlığı azaltmaya yönelik düzenlemeleri içermektedir. Bu zorlukların ele alınmasının önemi, küresel olarak meydana gelen doğa kaynaklı afetlerin sıklığı ve şiddeti ile vurgulanmaktadır.[5] Genel olarak, iklim değişikliği ve bunun afetler üzerindeki etkisiyle mücadele etmek, değişen iklime uyum sağlama ve ilgili riskleri yönetme konusunda ortak çabalar gerektirmektedir. Özellikle gelişmekte olan ülkeler, aşırı olaylarla başa çıkabilecek kaynaklardan yoksun oldukları için iklim değişikliğine karşı önemli bir kırılganlıkla karşı karşıyadır. İklim değişikliğinin ele alınması, toplumların kırılganlıklarının anlaşılmasını ve uyum çabalarına paydaşların dâhil edilmesini gerektirmektedir.[6] Son zamanlarda yapılan araştırmalar, iklim değişikliğine bağlı tehlikelerin insan yerleşimleri üzerindeki ciddiyetini vurgulayarak can kaybına, sosyal bozulmaya ve ekonomik zorluklara yol açtığını ortaya koymuştur. [5, 25, 43] Toplumların iklim değişikliğine uyum sağlama ve ilgili riskleri yönetme becerilerini geliştirmek için harekete geçmek, olumsuz etkilerin azaltılmasında önemli görülmektedir.[7]

İklim değişikliğinin neden olduğu afetlerin artan sıklığı ve şiddeti, dünya çapında önemli can ve mal kayıplarına yol açmaktadır.[8, 30] Yaşanan bu felaketler, sürdürülebilir kalkınma hedeflerine yönelik çabalar için bir tehdit oluşturmakta ve uluslararası toplum için ortak bir zorluk haline gelmektedir.[9] Birleşmiş Milletler Sürdürülebilir Kalkınma Hedefleri, önümüzdeki 15 yıl içinde küresel çevresel, siyasi ve ekonomik zorlukları ele almak üzere 2015 yılında kabul edilmiştir. Bu hedefler farklı disiplinler arası sorunları çözmek için hazırlanmıştır.[10] İklim değişikliği, çevre, ekonomi ve siyaset dâhil olmak üzere toplumun çeşitli yönlerini etkileyen karmaşık bir küresel sorundur.[11, 12] Hükümetler arası İklim Değişikliği Paneli (Intergovernmental Panel on Climate Change-IPCC) raporlarına göre, sera gazı emisyonlarındaki azalmaya rağmen, iklim değişikliğinin olumsuz etkilerinin devam edeceği değerlendirilmektedir.[13] İklim değişikliği birçok bölgede sanayi devriminden bu yana artan sıcaklıklarla karakterize edilmektedir.[14, 15] Bu değişikliklerin etkilerini hafifletmek için afet riskini azaltma ve iklim değişikliğine uyum stratejilerine ihtiyaç vardır. Bu durum, iklim değişikliğinin neden olduğu zorlukları ve afetler üzerindeki etkilerini ele almak için küresel iş birliğinin ve bu konuda yapılacak acil eylem planlarının önemini ortaya çıkarmaktadır.[16]

Birleşmiş Milletler 1990 yılında Doğal Afetlerin Azaltılması için Uluslararası On Yılı (IDNDR) başlatarak afetlerin etkisini azaltmaya yönelik küresel çabaların başlangıcına işaret etmiştir.[17] Aynı zamanda, Dünya Meteoroloji Örgütü ve Birleşmiş Milletler Çevre Programı 1988 yılında Hükümetler arası İklim Değişikliği Panelini kurarak iklim değişikliğini azaltmaya ve iklim değişikliğine uyum sağlamaya yönelik eylemlerin önünü açmıştır. Birleşmiş Milletler Genel Kurulu da 1990 yılında Birleşmiş Milletler İklim Değişikliği Çerçeve Sözleşmesi (UNFCCC) için Hükümetler arası Müzakere Komitesi'nin kurulmasını onaylayarak 1992 yılında iklim değişikliğine ilişkin uluslararası sözleşmelerin kabul edilmesini sağlamıştır.[18] O zamandan bu yana, afet riskinin azaltılması (DRR) ve iklim değişikliğine uyum (CCA) uluslararası sürdürülebilir kalkınmanın ana temaları haline gelmiştir.

Birleşmiş Milletler İklim Değişikliği Çerçeve Sözleşmesi, 2015 yılında Paris Taraflar Konferansı'nda (COP-21) Paris

Anlaşması'nın kabul edilmesiyle önemli bir atılım gerçekleştirmiştir. Bu anlaşma, tüm ulusları ilk kez bir araya getirerek iklim değişikliğiyle mücadele ve sürdürülebilir düşük karbonlu bir gelecek için çalışma ortak hedefi etrafında birleştirmiştir. Anlaşma ayrıca Sözleşme'nin kapsamını genişletmekte ve gelişmekte olan ülkelere iklim eylemi tedbirlerini uygulama ve iklim değişikliğinin etkilerine uyum sağlama konusunda yardımcı olacak mali desteğin arttırılmasına yönelik hükümler içermektedir. Genel olarak Paris Anlaşması, iklim değişikliğinin ele alınmasına yönelik küresel çabalarda bir dönüm noktasını temsil etmekte ve daha sürdürülebilir bir geleceğe doğru iddialı adımlar atılmasına yönelik kolektif bir taahhüdü ifade etmektedir.[19, 20]

Hükümetler arası İklim Değişikliği Paneline göre iklim değişikliği, gelişmekte olan ülkelerin kentsel alanlarında ekonomik kalkınmayı engelleyecek ve yoksulluğu artıracak aşırı hava olayları ve afetlerle sonuçlanacaktır. Bu öngörüyü ele almak için, uygun sera gazı azaltma ve iklim değişikliğine uyum politikalarını uygulamak ve aynı zamanda afet riskini azaltma önlemlerini dâhil etmek çok önemlidir. Toplumlar bu yaklaşımları birleştirerek iklim değişikliğine karşı dirençlerini artırabilirler.[21]

Bazı çalışmalar iklim değişikliğine uyum konusunu, afet risk azaltmanın bir alt kümesi veya afet risk azaltma süreçlerinden biri olarak ele almaktadır.[22-24] Bu iki konunun birbirleriyle ilişkili olduğunu düşünen çalışmalar da bulunmakta olup, her ikisinin de benzer amaçlara ve müdahale türlerine sahip olduğunu söyleyebiliriz.[23, 24] Bu nedenle, birçok çalışma, iklim değişikliğine uyum ve afet risk azaltma yaklaşımlarını bir arada ele almanın daha faydalı olabileceğini önermektedir.[25-27] Araştırmalarda, iklim değişikliğine uyum ve afet risk azaltmanın entegre edilmesi ve her ikisinin de sürdürülebilir kalkınma süreçlerine dahil edilmesinin yolları ve engelleri araştırılmıştır.[26-28]

Bu çalışma, üç ana hedefe odaklanarak iklim değişikliğine uyum ve afet risk yönetiminin bir analizini sunmaktadır. İlk olarak, iklim değişikliği ve aşırı hava olaylarıyla ilişkili zorlukları, etkileri ve riskleri değerlendirmektedir. İkinci olarak, afet riskinin azaltılması ve iklim değişikliğine uyumu kavramsal olarak incelenmekte ve sürdürülebilir kalkınma ile bağlantıları vurgulanmaktadır. Son olarak, afet riskinin azaltılması ve iklim değişikliğine uyum konusunun birbirine entegresi ve bunların sürdürülebilir kalkınma ile ilişkisini vurgulamaktadır. Genel olarak bu derleme, iklim değişikliğine uyum ve afet risk yönetimi yaklaşımına yönelik görüşler sunmaktadır.

Afet Risk Yönetimi ve Risklerin Azaltılması

Afet acil durum veri tabanı verilerine göre 2023 yılında 399 afet kaydedilmiştir. Bu afetlerin 164'ü sel, 32'si deprem, 10'u aşırı sıcaklık, 10'u kuraklık, 139'u fırtına, 16'sı orman yangını olarak kayıtlara geçmiştir. Bu olaylar 86.473 kişinin ölümüne yol açmış ve 93,1 milyon kişiyi etkilemiştir. Ekonomik kayıplar 202,7 milyar ABD dolarına ulaşmıştır.[29] Bu veriler, doğa kaynaklı afetlerin çoğunlukla iklimle bağlantılı olduğunu göstermektedir ve doğa kaynaklı afetlere karşı hazırlıklı olmak için önemli bir kaynak olarak kullanılabilir.

2000 ile 2019 yılları arasında dünya genelinde 7.348 afet olayı kaydedilmiş, bu olaylar yaklaşık 1,23 milyon kişinin ölümüyle sonuçlanmış ve 4 milyardan fazla insanı etkilemiştir. Bu rakamlar, sürdürülebilir kalkınma için afet riskinin azaltılması konusunun dikkate alınmasının önemini vurgulamaktadır. [8] Bununla birlikte, küresel, büyük ölçekli afetlerin neden olduğu can ve mal kaybını etkili bir şekilde azaltmak için bilimsel ve teknolojik yeteneklerin yanı sıra risk yönetişim mekanizmalarında da eksiklikler bulunmaktadır. Bu olayların etkisini azaltmak için risk izleme, risk değerlendirme ve erken uyarı sistemleri gibi eylemlere duyulan ihtiyaç önemini korumaktadır. Bu eksiklikler giderilmeden sürdürülebilir kalkınma hedefine ulaşmak zor olacaktır.[8, 30] Afet yönetimi, risk azaltma, hazırlık, müdahale ve iyileştirme gibi birçok bileşeni içeren önemli bir süreçtir. İklim değişikliğiyle başa çıkabilmek için afet

yönetimi stratejilerini uygulamak önemlidir. Bu entegrasyonu sağlamak için birkaç yaklaşım kullanılabilir. İlk olarak, iklim değişikliği senaryoları kullanılarak gelecekte ortaya çıkabilecek risklerin belirlenmesi ve önlemlerin planlanması gerekmektedir. İkinci olarak, erken uyarı sistemlerinin geliştirilmesiyle afete hazırlık artırılabilir. Bunun yanı sıra, iklim değişikliğine dayanıklı altyapılar inşa edilerek afetlerin etkileri azaltılabilir. Son olarak, yerel topluluklarla iş birliği içinde afet yönetimi ve uyum stratejilerinin geliştirilmesi, toplumların direncini artırabilir. İklim değişikliğine uyum stratejilerini afet yönetimine entegre ederek, toplumlar gelecekteki zorluklara daha iyi hazırlanabilir ve korunabilir. IPCC 'ne göre afetin tanımı, tehlikeli olayların neden olduğu, bir topluluğun veya toplumun işleyişindeki önemli bir aksama olarak tanımlamaktadır.[9] Bu aksamalar insanlar, ekonomi ve çevre üzerinde yaygın etkilere yol açarak, acil müdahale ve iyileşme için dış yardım gerektirmektedir. DRR, mevcut afet risklerini azaltmayı ve yenilerini önlemeyi, böylece dayanıklılığı artırmayı ve sürdürülebilir kalkınmayı mümkün kılmayı amaçlamaktadır.[31] Birleşmiş Milletler Afet Riskini Azaltma Ofisi (UNDRR), afet riskinin azaltılmasını, yeni riskleri önlemek, mevcut riskleri azaltmak, dayanıklılığı güçlendirmek ve afetlerden kaynaklanan kayıpları en aza indirmek için uygulanan politika hedefi olarak tanımlamaktadır.[8]

İklim Değişikliği Riskleri ve Uyum

Literatür incelendiğinde, iklimle mücadele kapsamında en önemli stratejilerden birinin iklim değişikliğine uyum olduğu ortaya konulmaktadır.[32] İklim değişikliğine uyum, Birleşmiş Milletler Uluslararası Afet Azaltma Stratejisinin (UNISDR) tanımına göre, doğa veya insan kaynaklı afetlere karşı gerçekleşen veya beklenen iklimsel etkileri yanıtlama sürecidir.[33] Bu süreçte hızla öğrenilmesi gereken konular arasında risk azaltımının önemi ve çevresel yönetim yer almaktadır. İklim değişikliğine uyum, dinamik bir süreçtir ve ekonomik, sosyal ve çevresel koşulların bu sürece uyarlanmasını içerir.[34]

İklim değişikliğine uyum, iklim değişikliğiyle mücadelede aktif bir hazırlık ve düzenleme sürecidir ve potansiyel fırsatlar yaratmaktadır.[35] Aynı zamanda, iklim değişikliğinin sonuçlarına ve tehlikelerine karşı önemli bir sosyal tepkidir ve iklim değişikliğinden kaynaklanan fırsatları kullanabilme becerisini de içerir. İklim değişikliğine uyum, iklim değişikliğinin etkilerinden korunmak ve fayda sağlamak için alınan önlemleri içermektedir. Bu önlemler arasında biyoçeşitliliğin ve dayanıklılığın artırılması ile kaynakların korunması yer almaktadır.[6, 35] Ayrıca, iklim değişikliğine uyum stratejilerinin, teknolojik, kurumsal, yapısal, siyasi ve yönetimsel faktörlere de bağlı olduğu ifade edilebilir.[36] İklim değişikliğine uyum, risk yönetiminin önemli bir bileşeni olarak kabul edilmektedir ve iklim değişikliğinin neden olduğu tehlikelerin ve kırılganlıkların yarattığı risklerin yönetilmesini içermektedir. Kurumlar arasında koordinasyon gerektirmekte ve güvenilir araştırma ve politika hedefleri tarafından yönlendirilmesi gerekmektedir.[5]

İklim değişikliği dünya genelinde önemli bir sorun haline gelmiştir. İklim değişikliğinin neden olduğu etkilere uyum sağlamak, ekonomik ve sosyal kalkınma için zorunlu bir hal almıştır. Bu nedenle, ulusal ve uluslararası düzeyde, iklim değişikliğinin olumsuz etkilerini azaltmaya ve iklim değişikliğine uyum sağlamaya yönelik daha uygulanabilir stratejilerin geliştirilmesi gerektiği ifade edilebilir.[37]

İklim Değişikliğine Uyum ve Afet Risk Yönetimi

İklim değişikliğine uyum ve afet risk azaltımı, iklim değişikliğine yanıtta önemli faktörlerdir.[38] Bu bağlamda 2015 yılında üç önemli gelişme yaşanmıştır. Bunlar; 2015-2030 Afet Risk Azaltma Sendai Çerçevesi, Sürdürülebilir Kalkınma Hedefleri ve Paris Anlaşmasıdır.[39-41] Bu faaliyetler afet riskinin azaltılması, iklim değişikliğine uyum ve sürdürülebilir kalkınma açısından önemli görülmektedir.

İklim değişikliğine uyum ve afet risklerinin azaltılması eylemlerinde, benzer hedefler bulunsa da bu iki eylem arasında bazı

farklılıklar vardır.[24, 25] Afet risklerinin azaltılması, kayıpları azaltmayı hedeflerken, iklim değişikliğine uyum ekosistemler, biyoçeşitlilik, bulaşıcı hastalıklar ve sağlık gibi alanları kapsar.[9] Afet risk azaltımı sera gazı emisyonunu azaltırken, İklim değişikliğine uyum doğrudan iklim değişikliğini etkiler. Bu konu hem ekonomik hem de çevresel açıdan önemlidir. [38, 42-45] İklim değişikliğiyle mücadelede tarım, su, ekosistemler ve diğer sektörler öncelikli alanlardır. Araştırmacılar, farklı sektörlerde ve coğrafi bölgelerde, iklim değişikliğine uyum sağlama ve etkilerini azaltma metodolojileri konusunda ciddi endişelere sahiptir. Tarım, sanayi, ormancılık, ulaştırma ve arazi kullanımı, uyum ve azaltım politikalarının merkezi sektörleridir.[46, 47] İklim değişikliğine uyum ve afet risk azaltımı, bütünleşik afet risk yönetiminin önemli bileşenleridir. Dolayısıyla toplum dirençliliğini artırma ve sürdürülebilir kalkınma hedeflerine ulaşabilmek için birlikte ele alınmalıdır.[48] Bu durum, afet risk yönetimi ve iklim değişikliğinin azaltılması gibi alanlarda sinerjik etkiler yaratarak sürdürülebilir kalkınmaya ve toplumsal dirençliliğin artırılmasına katkı sunabilir.

Ulusal ve uluslararası düzeyde iklim değişikliğine uyum ve afet riskinin azaltılması arasında entegrasyonu engelleyen birçok faktör vardır. [23, 49] Bu faktörler arasında; kurum-kuruluşlar arasında yaşanan iletişim eksikliği, koordinasyon sorunları, politik irade eksikliği, kapasite eksikliği, politika boşlukları, uyumsuzluklar ve finansman eksiklikleri yer almaktadır. İklim değişikliğine uyum ve afet riskinin azaltılması genellikle birbirinden bağımsız olarak ele alınmakta ve analiz edilmektedir. [2, 50, 51] Aynı şekilde, uluslararası alanda iklim değişikliği, sürdürülebilir kalkınma ve insani yardım projeleri de ayrı ayrı ele alınmaktadır. Ancak entegre bir yaklaşımın benimsenmesi ve uygulanması önemlidir. Bu entegrasyon, daha etkili bir afet risk yönetimi ve toplumların afetlere karşı daha dirençli olmasını sağlayabilir. Bütünleşik afet yönetimi, hem bilinen hem de öngörülemeyen risklerin yönetilmesini içerir.[52] Ayrıca iklim değişikliği ve afet riski hakkında daha iyi veri ve eyleme geçirilebilir bilgi gerektirir.[53, 54]

Genel olarak, iklim değişikliğine uyum ve afet risk azaltmanın, birbirleriyle bağlantılı hedeflere sahip olmaları ve benzer müdahale türlerini içermeleri nedeniyle birlikte ele alınmasının önemli olduğu söylenebilir.

SONUÇ VE ÖNERİLER

Bu çalışma, iklim değişikliğine uyum ve afet risk yönetimi konularında yapılan araştırmaların genel bir değerlendirmesini sunmakta, afet riskini azaltma ve iklim değişikliğine uyum arasındaki değerlendirmeleri içermektedir.

Afet risklerinin sürdürülebilir kalkınma üzerindeki etkisi büyük olup, yaşam ve geçim kaynakları üzerinde olumsuz etkilere yol açabilmektedir. Afet riskleri iklim değişikliği nedeniyle artmakta ve uyum sağlama kabiliyetini sınırlamaktadır. İklim değişikliği ve afet risklerini ele alan bu çalışma, sürdürülebilir kalkınmayı etkin bir şekilde destekleyebilmek için iklim değişikliğine yönelik uygulanabilir uyum stratejilerinin geliştirilmesinin, afet risk yönetim politikalarının revize edilmesinin ve bu iki konunun birlikte ele alınmasının önem arz ettiği söylenebilir. Afetlere karşı dayanıklılığın sağlanması, özellikle iklimle ilgili risklerin ele alınması, hassas grupların korunması ve başarılı sonuçlar için yerel, ulusal ve uluslararası paydaşlar arasında iş birliği gerekmektedir.

İklim değişikliği karşısında yeni riskleri önlemek, mevcut kırılganlıkları azaltmak ve Sendai Çerçevesi, Paris Anlaşması ve Sürdürülebilir Kalkınma Hedeflerinin amaçlarına ulaşmak için harekete geçilmelidir.

KAYNAKLAR

1. Denton, F., Wilbanks, T. J., Abeysinghe, A. C., Burton, I., Gao, Q., Lemos, M. C., Masui, T., O'Brien, K. L. and Warner, K. (2014). "Climate-resilient pathways: Adaptation, mitigation, and sustainable development". In: C.B. Field (Ed). Climate change 2014: impacts, adaptation, and vulnerability. Part A: global and sectoral aspects. Contribution of working group II to the fifth assessment report of the intergovernmental panel on climate change (1101–1131). Cambridge: Cambridge University Press.
2. Field, C. B. and Barros, V. R. (2014). "Climate change 2014–Impacts, adaptation and vulnerability: Regional aspects". Cambridge: Cambridge University Press.
3. Adger, W. N., Dessai, S., Goulden, M., Hulme, M., Lorenzoni, I., Nelson, D. R., Naess, L. O., Wolf, J. and Wreford, A. (2009). "Are there social limits to adaptation to climate change?" Climatic Change, 93 (3-4), 335-354. https://doi.org/10.1007/s10584-008-9520-z
4. Houghton, J. (2009). "Global warming: The complete briefing. Cambridge." New York: Cambridge university press.
5. Ruhl, J. B., Craig, R. K. and Baroud, H. (2022). "Editorial: Coordinating Climate Change Adaptation as Risk Management". Frontiers in Climate, 4: 910079. .https://doi.org/10.3389/fclim.2022.910079
6. Smit, B. and Pilifosova, O. (2003). "From Adaptation to Adaptive Capacity and Vulnerability Reduction". In: J. Smith (Ed.). Climate Change, Adaptive Capacity and Development (9-28). Londra: Imperial college press. https://doi.org/10.1142/9781860945816_0002
7. McBean, G. and Ajibade, I. (2009). "Climate change, related hazards and human settlements". Current Opinion in Environmental Sustainability, 1 (2), 179-186.
8. UNDRR, C. (2020). "The human cost of disasters: An overview of the last 20 years (2000-2019)". Accessed adress: https://www.preventionweb.net/files/74124_humancostofdisasters20002019reportu.pdf. (Accessed: 18.06.2024)
9. IPCC. (2022). "Climate change 2022: Impacts, adaptation, and vulnerability". Accessed adress: https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_SummaryForPolicymakers.pdf (Accessed: 20.06.2024).
10. United Nations (UN). (2015). "Resolution adopted by the General Assembly". Accessed adress: https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_RES_70_1_E.pdf (Accessed: 12.08.2024).
11. Adger, W. N., Arnell, N. W. and Tompkins, E. L. (2005). "Successful adaptation to climate change across scales". Global environmental change, 15 (2), 77-86.
12. Feliciano, D., Recha, J., Ambaw, G., MacSween, K., Solomon, D. and Wollenberg, E. (2022). "Assessment of agricultural emissions, climate change mitigation and adaptation practices in Ethiopia". Climate Policy, 22 (4), 427-444. https://doi.org/10.1080/14693062.2022.2028597.
13. IPCC. (2021). "Summary for policymakers". In: V. Masson (Ed.). Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (3−32). Cambridge, United Kingdom and New York, USA: Cambridge University Press.
14. Schuurmans, C. J. E. (2021). "The world heat budget: Expected changes". In: D. Eisma (Ed.). Climate ChangeImpact on Coastal Habitation (1-15). USA: CRC Press.
15. Yadav, M. K., Singh, R. S., Singh, K. K., Mall, R. K., Patel, C. B., Yadav, S. K. and Singh, M. K. (2015). "Assessment of climate change impact on productivity of different cereal crops in Varanasi, India". Journal of Agrometeorology, 17 (2), 179-184.
16. Leppänen, S., Saikkonen, L. and Ollikainen, M. (2014). "Impact of Climate Change on cereal grain production in Russia: Mimeo". AgriculturalGoods and Bads: Essays on Agriculture and Environmental Externalities.
17. United Nations. (1989). "International Decade for Natural Disaster Reduction. United Nations General Assembly Resolution A/RES/44/236". Accessed adress: http://www.undrr.org/our-work/history (Accessed: 15.06.2024).
18. United Nations. (1992a). "United Nations Framework Convention on Climate Change". Accessed adress: https://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf (Accessed: 16.06.2024).
19. Chien, F., Anwar, A., Hsu, C.-C., Sharif, A., Razzaq, A. and Sinha, A. (2021). "The role of information and communication technology in encountering environmental degradation: Proposing an SDG framework for the BRICS countries". Technology in Society, 65, 101587.
20. Sharma, R., Sinha, A. and Kautish, P. (2020). "Examining the impacts of economic and demographic aspects on the ecological footprint in South and Southeast Asian countries". Environmental Science and Pollution Research, 27 (29), 36970-36982. https://doi.org/10.1007/s11356-020-09659-3
21. IPCC. (2014a). "AR5 Climate Change 2014: Impacts, Adaptation, and Vulnerability". Accessed adress: https://www.ipcc.ch/report/ar5/wg2/ (Accessed: 15.06.2024).
22. Kelman, I. (2017). "Linking disaster risk reduction, climate change, and the sustainable development goals". Disaster Prevention and Management: An International Journal, 26 (3), 254-258.
23. Islam, S., Chu, C., Smart, J. C. R. and Liew, L. (2020). "Integrating disaster risk reduction and climate change adaptation: A systematic literature review". Climate and Development, 12 (3), 255-267. https://doi.org/10.1080/17565529.2019.1613217
24. Twigg, J. (2015). "Disaster risk reduction". New edition. Good Practice Review 9. London: Humanitarian Practice Network, Overseas Development Institute.
25. Clegg, G., Dias, N., Amaratunga, D., Haigh, R. and Panda, A. (2019). "Integration of CCA and DRR for flood resilience: A review of good practices in the United Kingdom". Global Assessment Report on Disaster Risk Reduction (GAR 2019). Accessed adress: https://www.unisdr.org/files/66296_f337finalcleggintegrationofccaanddr.pdf (Accessed: 17.06.2024).
26. Florano, E. R. (2015). "Mainstreaming integrated climate change adaptation and disaster risk reduction in local development plans in the Philippines". In: W.L. Filho (Ed.). Handbook of climate change adaptation (33–456). Berlin: Springer.
27. Hore, K., Kelman, I., Mercer, J. and Gaillard, J. (2018). "Climate Change and Disasters". In: H. Rodríguez (Ed.), Handbook of Disaster Research (145-159). Cham, Switzerland: Springer. https://doi.org/10.1007/978-3-319-63254-4_8
28. Mitchell, T., Van Aalst, M. and Villanueva, P. S. (2010). "Assessing progress on integrating disaster risk reduction and climate change adaptation in development processes". Strengthening Climate Resilience Discussion Paper No. 2. Brighton, UK: Institute of Development Studies.
29. Centre for Research on the Epidemiology of Disasters (CRED). (2024). "2023 Disasters in Number". Accessed adress: https://files.emdat.be/reports/2023_EMDAT_report.pdf (Accessed: 12.08.2024).
30. UNDP. (2004). "A global report reducing disaster risk: A challenge for development". New York: United Nations Development Programme, Bureau for Crisis Prevention and Recovery.

31. IPCC. (2012). "Summary for policymakers". In: C.B. Field (Ed.). Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation. Special Report of the Intergovernmental Panel on Climate Change (1–19). Cambridge, UK and New York, USA: Cambridge University Press.

32. Urwin, K. and Jordan, A. (2008). "Does public policy support or undermine climate change adaptation? Exploring policy interplay across different scales of governance". Global environmental change, 18 (1), 180-191.

33. UNISDR. (2009). "Terminology on disaster risk reduction". Accessed adress: http://www.undrr.org/publication/2009-unisdr-terminology-disaster-risk-reduction (Accessed: 14.06.2024).

34. Engle, N. L., De Bremond, A., Malone, E. L. and Moss, R. H. (2014). "Towards a resilience indicator framework for making climate-change adaptation decisions". Mitigation and Adaptation Strategies for Global Change, 19 (8), 1295-1312. https://doi.org/10.1007/s11027-013-9475-x

35. Allaoua, Z. (2011). "Guide to climate change adaptation in cities". Washington: The International Bank for Reconstruction and Development/The World Bank.

36. Nathan, L. P. (2009). Ecovillages, sustainability, and information tools: An ethnography of values, adaptation, and tension. Doctoral dissertation. University of Washington, Seattle.

37. Hussain, M., Butt, A. R., Uzma, F., Ahmed, R., Irshad, S., Rehman, A. and Yousaf, B. (2020). "A comprehensive review of climate change impacts, adaptation, and mitigation on environmental and natural calamities in Pakistan". Environmental Monitoring and Assessment, 192 (1), 48. https://doi.org/10.1007/s10661-019-7956-4

38. Jahanzad, E., Holtz, B. A., Zuber, C. A., Doll, D., Brewer, K. M., Hogan, S. and Gaudin, A. C. (2020). "Orchard recycling improves climate change adaptation and mitigation potential of almond production systems". PLoS One, 15 (3), e0229588.

39. United Nations, (2015a). "Sendai Framework for Disaster Risk Reduction 2015a–2030". Accessed adress: https://www.undrr.org/implementing-sendai-framework/what-sendai-framework (Accessed: 20.06.2024).

40. United Nations. (2015b). "Adoption of the Paris Agreement". UNFCCC COP 21st Session, 30 November–11 December 2015b, Paris, France. Proposal by the President, 282 (2).

41. United Nations. (2015c). "Transforming our world: The 2030 Agenda for Sustainable Development. United Nations General Assembly Resolution A/RES/70/1". New York: United Nations, Department of Economic and Social Affairs, 1, 41.

42. Botzen, W., Duijndam, S. and van Beukering, P. (2021). "Lessons for climate policy from behavioral biases towards COVID-19 and climate change risks". World Development, 137, 105214.

43. Kongsager, R. (2018). "Linking climate change adaptation and mitigation: A review with evidence from the land-use sectors". Land, 7 (4), 158.

44. Usman, M., Khalid, K. and Mehdi, M. A. (2021). "What determines environmental deficit in Asia? Embossing the role of renewable and non-renewable energy utilization". Renewable Energy, 168, 1165-1176.

45. Vale, M. M., Arias, P. A., Ortega, G., Cardoso, M., Oliveira, B. F. A., Loyola, R. and Scarano, F. R. (2021). "Climate Change and Biodiversity in the Atlantic Forest: Best Climatic Models, Predicted Changes and Impacts, and Adaptation Options". In: M. C. M. Marques and C. E. V. Grelle (Ed.). The Atlantic Forest (253-267). Cham, Springer. https://doi.org/10.1007/978-3-030-55322-7_12.

46. Kärkkäinen, L., Lehtonen, H., Helin, J., Lintunen, J., Peltonen-Sainio, P., Regina, K., Uusivuori, J. and Packalen, T. (2020). "Evaluation of policy instruments for supporting greenhouse gas mitigation efforts in agricultural and urban land use". Land Use Policy, 99, 104991.

47. Waheed, A., Bernward Fischer, T. and Khan, M. I. (2021). "Climate Change Policy Coherence across Policies, Plans, and Strategies in Pakistan—Implications for the China–Pakistan Economic Corridor Plan". Environmental Management, 67 (5), 793-810. https://doi.org/10.1007/s00267-021-01449-y.

48. UNEP. (2022). "Adaptation Gap Report 2022: Too little, too slow – Climate adaptation failure puts world at risk". Accessed adress: http://www.unep.org/resources/adaptation-gap-report-2022 (Accessed: 20.06.2024).

49. Dias, N., Amaratunga, D., Haigh, R., Clegg, G. and Malalgoda, C. (2020). "Critical Factors that Hinder Integration of CCA and DRR: Global Perspective". In: W. Leal Filho, J. Luetz, and D. Ayal (Ed.). Handbook of Climate Change Management (1-22). Cham, Switzerland: Springer.https://doi.org/10.1007/978-3-030-22759-3_124-1

50. Chmutina, K., Jigyasu, R. and Bosher, L. (2016). "Integrating disaster risk reduction and climate change adaptation into the built environment". 7–9 September 2016, Proceedings of the 6th International Conference on Building Resilience (7–9). The University of Auckland, Auckland, New Zealand.

51. Kelman, I., Gaillard, J. C. and Mercer, J. (2015). "Climate Change's Role in Disaster Risk Reduction's Future: Beyond Vulnerability and Resilience". International Journal of Disaster Risk Science, 6 (1), 21-27. https://doi.org/10.1007/s13753-015-0038-5

52. Pirani, R. and Tolkoff, L. (2015). "Lessons from Sandy: Federal policies to build climate-resilient coastal regions". Cambridge, MA: Lincoln Institute of Land Policy.

53. Mysiak, J., Castellari, S., Kurnik, B., Swart, R., Pringle, P., Schwarze, R., Wolters, H., Jeuken, A. and Linden, P. (2018). "Brief communication: Strengthening coherence between climate change adaptation and disaster risk reduction". Natural Hazards and Earth System Sciences, 18 (11), 3137-3143.

54. Zuccaro, G., Leone, M. F. and Martucci, C. (2020). "Future research and innovation priorities in the field of natural hazards, disaster risk reduction, disaster risk management and climate change adaptation: A shared vision from the ESPREssO Project". International Journal of Disaster Risk Reduction, 51, 101783.